THE ANCIENT GREEK FARMSTEAD

MAEVE MCHUGH



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Front cover image: Large rock cut *patitiri*, Methana (photograph by the author).
Back cover: A terraced valley, Methana (photography by the author).

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Abbreviations

Add. Info.	Additional Information
Agri. Insta.	Agricultural Installation
Agri. Tools.	Agricultural Tools
DEM	Digital Elevation Model
CORINE	Co-ORdinated INformation on the Environment
Fn	Footnote
GHI	Tod, M.N. 1948. *A Selection of Greek Historical Inscriptions,* vol. II. Oxford: Clarendon Press.
GIS	Geographical Information Systems
1ha.	1 hectare
IG	*Inscriptiones Graecae*
km	kilometre
LRSP	Laconia Rural Sites Project
LW	Loom Weight
m	metre
MAP	Mazi Archaeological Project
NVAP	Nemea Valley Archaeological Project
pers. comm.	*personal communication*
PRAP	Pylos Regional Archaeological Project
SEG	*Supplementum Epigraphicum Graecum*
SRS	Simple Rural Site
TAESP	The Troodos Archaeological and Environmental Survey Project

Site aliases used in figures and Appendix 1

Akt_Cul_#	Akte Cult Site #
Akt_Insta_#	Akte Installation #
Akt_Tow_#	Akte Tower #
Akt_Sec_#	Akte Second Order Site #
Akt_SRS_#	Akte SRS #
Ate_Insta_#	Atene Installation #
Ate_Tow_#	Atene Tower #
Ate_SRS_#	Atene SRS #
Lac_SRS_#	Laconia SRS #
Meth_Cul_#	Methana Cult Site #
Meth_Insta_#	Methana Installation #
Meth_Tow_#	Methana Tower #

Meth_Sec_#	Methana Second Order Site #
Metha_SRS_#	Methana SRS #

Chronological periods in Appendix 1

A	Archaic
AR–H	Archaic to Hellenistic
A–MED	Archaic to Medieval
LA	Late Archaic
LAR–C	Late Archaic to Classical
LAR–LC	Late Archaic to Late Classical
LAR–EH	Late Archaic to Early Hellenistic
LAR–H	Late Archaic to Hellenistic
LAR–R	Late Archaic to Roman
EC–MED	Early Classical to Medieval
C	Classical
C–H	Classical to Hellenistic
C–R	Classical to Roman
C–LR	Classical to Late Roman
LC–H	Late Classical to Hellenistic
EH	Early Hellenistic
E–MH	Early to Middle Hellenistic
H	Hellenistic
H–R	Hellenistic to Roman
ER	Early Roman
MR	Middle Roman
LR	Late Roman
LR–MED	Late Roman to Medieval
Med	Medieval
EMod	Early Modern
Mod	Modern

Other abbreviations used in Appendix 1 tables

Ceramics

F	fine
D	domestic
S	storage

Additional information

BH	beehive
TR	terrace

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Chapter 1

Introduction

This book studies the archaeological and textual evidence for the ancient Greek farmstead, with the aim of understanding how farmers utilised these sites as centres for agricultural industry. I define farmsteads as rural sites, which could support either year-round or temporary occupation by a free or slave labour force engaged in agricultural activity for either subsistence or economic gain. Farmsteads played a fundamental role in agricultural industry, but as we shall see due to a number of factors, they are often discussed in a supplementary manner in research on other topics concerning ancient Greek agriculture. As such, I discuss in turn the archaeological and textual evidence for farmsteads, their identification in archaeology, and their role in ancient agricultural industry and economy, with a specific focus on how they, along with infrastructure, formed an interconnected network, which supported the local agricultural economy. The objective of this study is to bring farmsteads to the forefront of research, and to take a holistic approach to the data by gathering divergent research threads with the purpose of understanding the wider role of farmsteads in society, and their function as nodal points for agricultural industry. Therefore, the purpose of this book is to fully explore the archaeological and textual evidence for farmsteads (dating from the mid-Classical to the early-Hellenistic period (*c.* 450–250 BC)) in order to identify the agricultural roles these sites had, before turning to a spatial analysis of how they formed farming networks in specific landscapes.

Locating the ancient Greek farmstead in modern scholarship

The primary aim of this work is to take the topic of sites identified archaeologically as farmsteads and place them within their social and economic context, first by explaining the variety of farmstead types and how this reflects the different socio-economic realities of farmers, and secondly by exploring how they formed nodal points in a connected agricultural network throughout specific landscapes. Before I can begin, however, it is important to understand the contentious nature of scholarship concerning farmsteads and how there is very little consensus regarding their identification, their role, and even their existence. Thus an account of the historiography of the archaeological research into farmsteads is of the utmost

importance because it highlights the challenging nature of their identification, and the range of debates surrounding their historic and social role in Classical–Hellenistic Greece.

Farmsteads, and their role in the socio-economic life of the ancient *polis* are inherently linked to the topic of ancient Greek agriculture. The interrelations between farmsteads and agriculture are complex and predominantly focus on farming systems (extensive and intensive), settlement patterns (nucleated and dispersed), habitation in the countryside, the class of the farmer, agricultural economy, and technical studies including tools, transport, and commodities, particularly the production of olive oil. These topics either individually or in combination have been the subject of numerous books, articles, and conference proceedings, and they will be discussed throughout this analysis.

Researchers in the first half of the twentieth century, without available evidence from archaeology, believed that large urban centres provided the nucleus of occupation for the ancient Greeks, and that the countryside remained devoid of any permanent types of habitation to do with agriculture (e.g. Bolkestein 1958, 20–21). Nevertheless, despite the reasonable suggestion that many ancient Greeks may have preferred to live in towns, which provided relative safety in comparison with the countryside, archaeologists and topographers were beginning to take note of a number of rural structures, which did not have an immediately apparent function as forts or watchtowers. For example, early studies of blockhouses in the Argolid noted that some towers in the countryside were not situated in clearly defensible positions, and moreover, their exploration had brought to light a large number of sherds from domestic ware ceramics (Pečírka 1973, 123; see Lord 1938). Eliot, in his analysis of the coastal demes of Attica, listed as farm-houses a series of rural structures which he identified as such on the basis of their position in the countryside (1962, 44; Pečírka 1973, 134). Young (1956) was the first to study tower complexes in Sounion, southern Attica, with an aim of understanding their function as farms. Through comparison with similar structures on the Greek islands, their position in the countryside, and evidence of agricultural installations in the form of threshing floors, he concluded that these sites were 'country estates' of the wealthy (1956, 141). Young was also the first to create a typology of three basic structural elements which made up a farm including a 'πύργος, αὐλή, and οἰκία' (tower, court, and house) discussed further in Chapter 3 (1956, 138). Similar structural trends were noted by Kent in the inscriptions from Delos, which referred to farm structures as 'κλείσιον' which included a sleeping quarters, courtyard, and tower (1948, 297–298; cf. Osborne 1985b, 122). However, Hellmann questions the word 'κλείσιον' to describe rural Delian farms, and instead argues that similar terminology used throughout the Greek world of χωρίον καί οἰκία (land and house) and its derivatives describe farmsteads on Delos (1993, 210 & 223). The issues with terminology is discussed further in Chapter 2, here however, it is sufficient to note that the evidence from inscriptions clearly show that there were a variety of structures on the land.

The existence of sites like these suggested that there was more permanent activity on the landscape than originally thought. At the time, archaeologists were rightly concerned that some, if not all, of the archaeology of agriculture may be lost because of changes that were happening politically and socially in Greece in the first half of the twentieth century (Pečírka 1973, 136–137). For example, concern was raised that the urban sprawl in Attica might destroy the series of field systems and terraces located on Mt Hymettos in Attica (identified by examining aerial photography taken during World War II), this fear was justified when during the post war years this area was extensively developed and the archaeology destroyed (see Bradford 1956; cf. Foxhall 2007, 200). The archaeological evidence of such rural sites elsewhere in the Greek world allowed Pečírka to move the discussion further by attempting to define them as 'homesteads' meaning 'farms with permanent buildings used both for living and work ...' (1973, 114). Citing excavated evidence of farms from the Chersonesos in Taurica and the farms in Metaponto Italy, he argued that similar patterns of rural site distribution could be identified within mainland Greece, and the islands of Keos, Thasos, and Melos. This information relied on extant visible structural remains, and the discussion is taken up with the identification of towers and tower complexes as farm sites, which is discussed further in the following chapters.

The Vari house (Fig. 1.1), and to a lesser extent the Dema house (Fig. 1.2), both excavated in the countryside of Attica, epitomise the issues surrounding farmsteads (Jones *et al.* 1962; 1973; Foxhall 2002a). The excavated remains of the Vari house revealed a structure with the same layout as an urban *pastas* house (Jones *et al.* 1973, 431). Additionally, the site had evidence that a tower was connected to the structure to the south-west of the building. Therefore, structurally the site was reminiscent, firstly of a well-established urban house type, and secondly, comparable to towerhouses associated with farming in the Chersonesos peninsula (Jones *et al.* 1973, 437–438; Pečírka 1975; Saprykin 1994). But structural evidence alone was not enough to assign this site as a centre of permanent occupation in the countryside. In particular, the ceramic material from the Vari house, and questions of how representative it is of the activities at the site, has dogged any discussion about its identification as a farmstead.

Ceramic typologies are discussed further in Chapter 3, briefly here however, the ceramic material from the Vari house corresponds to the typical ceramic types found in excavated domestic contexts (Lynch 2011, 46). The presence of fine, domestic, and storage wares indicates that a range of activities happened on the site including the preparation and cooking of food, the storage of perishable goods, and the formal consumption of food and drink. However, the main criticism about the ceramic assemblages at the Vari house is that, for Foxhall at least, 'it reveals a confused and fragmentary mixture of different kinds of activities spread unevenly throughout domestic space' (2000, 495). The fragmentary nature of the ceramic assemblage from the Vari house, on the one hand, may be indicative of seasonal/periodic activity, or on the other hand, may relate to the final abandonment and post depositional

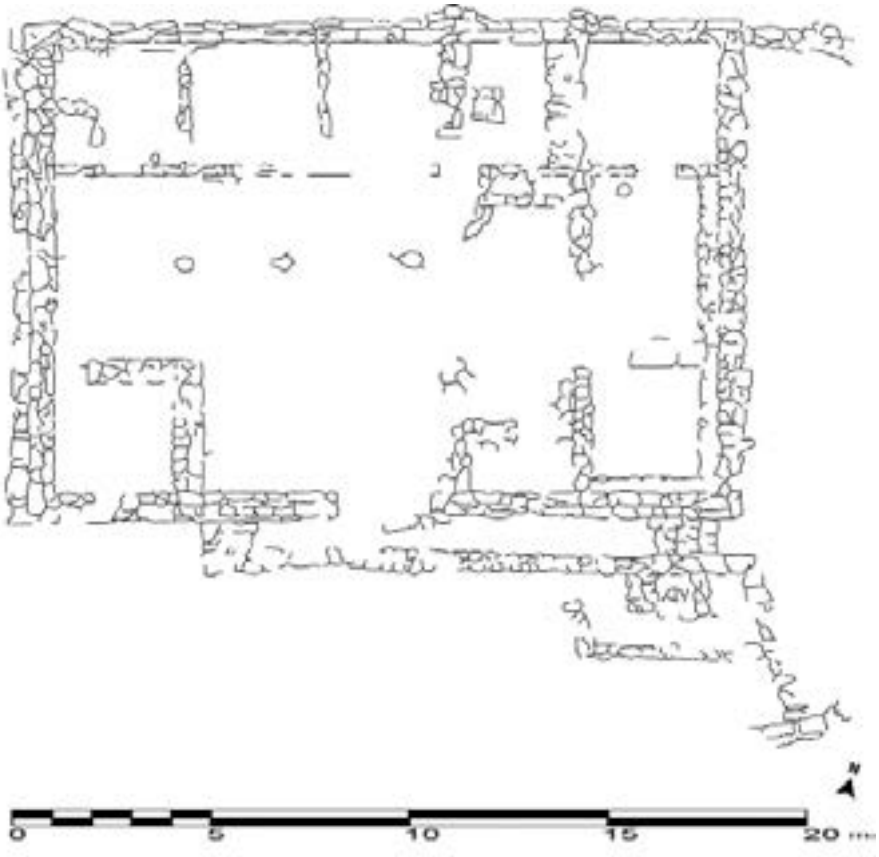


Fig. 1.1: Ground plan of the Vari house, Attica (after Jones et al. *1973, 362).*

activity at the site (Winther-Jacobson 2010a, 280–284). Therefore, ceramic and structural evidence then from the Vari house as suggestive of its agricultural role, for some researchers at least, remains inconclusive. The same issues, which confuse the interpretation of the Vari house, hinder any discussion of the equally problematic Dema house. The fragmentary ceramic evidence from the site has led Foxhall to conclude that the Dema House is a 'suburban' country house belonging to wealthy owners (Foxhall 2004, 266). This conclusion offers very little insight into the role of the Dema house. Furthermore, identifying this house as 'suburban' gives a misleading image of the Athenian landscape. To explain further, the Dema house was named as such for its position near to the Dema wall (a constituent part of the defensive network of walls and forts across the borders of Attica), which leads one to believe that there would be nothing 'suburban', with all that implies, about living or staying at the Dema house. The issue of allocating roles for the Vari and Dema houses goes some way to highlight the methodological differences between archaeological excavation and survey. We can only understand the Vari and Dema

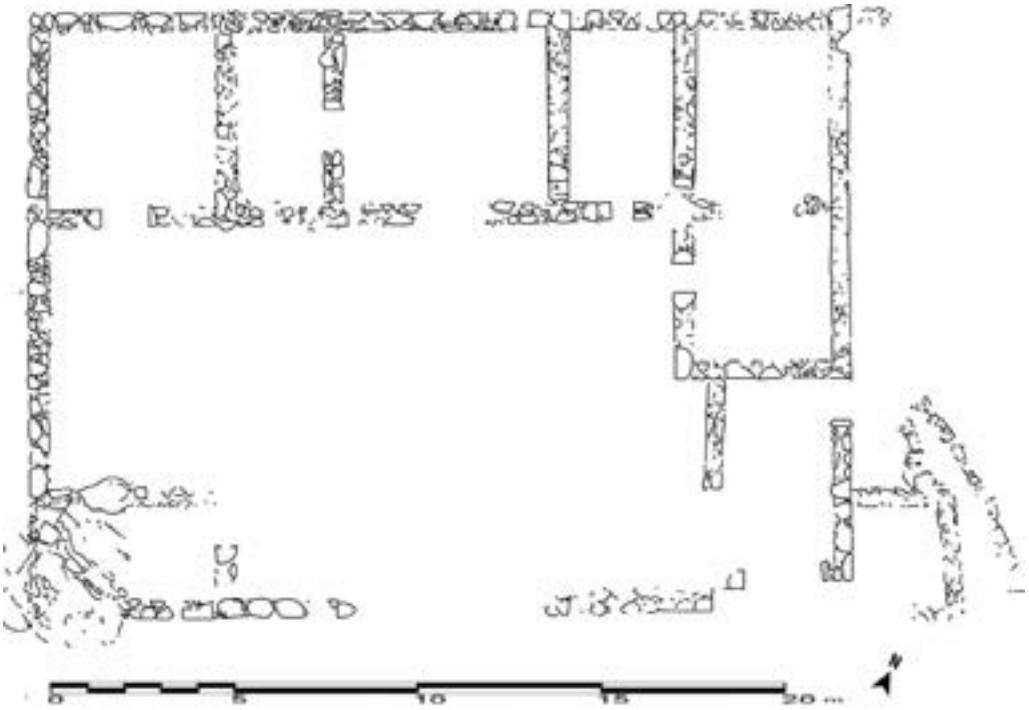


Fig. 1.2: Ground plan of the Dema house, Attica (after Jones et al. *1962, 76).*

houses within a vacuum with very little context. Yes, the large settlement of Vari is located 2 km away from the Vari house, and indeed a much smaller structure was investigated just south of the excavated site (see Lauter 1980). But little else is known of the surrounding sites, which populated the landscape. This is the strength of pedestrian landscape survey in that it allows us to formulate a picture of the entire landscape rather than one site in isolation. In this study, the majority of the archaeological data comes from landscape survey, and excavated farmsteads when possible supplement and enrich the argument.

Archaeological research into farmsteads stagnated somewhat after the excavation of the Vari and Dema houses (Jones *et al.* 1962; 1973). Because of the limited research on rural structures, little could be added to the earlier theories for farming practices laid out by researchers. It was not until the advent of intensive archaeological survey beginning in the 1970s and 1980s in Boeotia, the Argolid, Methana, and Euboea that the term farmstead begins to be used to describe a 'feature' in the rural landscape associated with small to medium sized pottery of a domestic nature. The adoption of the definition by numerous surveys throughout Greece has reinforced the use of 'farmstead' as a descriptive term despite the insistence of some researchers that the term should not be used other than between inverted commas (Foxhall 2002a, 216).

Here it is important to chart briefly the chronological development of the research into ancient Greek agriculture that featured a discussion on farming sites, starting with Robin Osborne's 1987 book *Classical Landscape with Figures.* Osborne's use of landscape survey and the rural-centric premise of the argument are significant because it attempts to describe the relationship between the city and its countryside based on a combination of textual and archaeological evidence. Although some of Osborne's conclusions are contentious, this study marks the beginning of intensive research into ancient Greek farming, using a combination of archaeological and textual evidence (Hanson 1988, 296). Isager and Skydsgaard's *Ancient Greek Agriculture: An Introduction* (1995) investigates various practices connected to agriculture in ancient Greece including tools, buildings, animal husbandry, and agricultural economics. The analysis, although it also uses archaeological and iconographic evidence, is primarily focused on the references in ancient texts. Similarly, Allison Burford's *Land and Labour in the Greek World* (1993) provides an introduction to Greek agriculture but with a specific focus on land tenure. Both books, however, fail to discuss the influence of the results from pedestrian landscape surveys regarding chronological changes in settlement pattern, and changes in the intensity of farming practices (Morris 1994, 1294). At the time of their publication, these topics were controversial, and the contentious nature of the debates can be clearly seen in the discussions after papers presented at a conference in Athens published under the title *Agriculture in Ancient Greece* (Wells 1992). This important conference included papers by the leading researchers in the field of ancient Greek agriculture and the scope of the conference highlights the broad spectrum of topics, such as erosion, soil types, land ownership, farmsteads, demography, ethnography, and technical papers on the growth of crops, which are included under the umbrella term 'Ancient Greek Agriculture'. The papers and the discussions after each session illustrate that a new way of understanding ancient Greek agriculture was emerging in scholarship, spurred on by the publication of landscape surveys, particularly the identification of numerous farmsteads within the countryside.

This 'discovery' of rural sites which had similar ceramic repertoires to domestic assemblages in urban houses, and no identifiable cultic or mining role, caused researchers to begin to examine the countryside as a centre for domestic and economic activity rather than an empty transitional space between urban centres. In doing so, a 'New Model' to describe ancient agriculture consisting of farmers working in dispersed settlements with mixed farming, pasturing animals, manuring crops, and possibly living on the land full–time was put forward (Morris 2005, 14). The 'New Model' rejected the concept favoured by authors like Isager and Skydsgaard (1995, 108–114) that farming was primarily not intensive with settlement in nucleated centres with a definite separation between farmers who cultivated crops and those engaged in pastoralism, these issues will be discussed further in Chapter 2. By the 1990s then, the concept of the farmstead as a physical, social, and economic entity had taken hold. In doing so, the theoretical idea of a farmstead has converted itself from a

conceptual descriptive term for small pottery scatters to an entirely new entity, which has generated its own debates and criticisms. A researcher who deserves particular mention is Lin Foxhall; although her work on agriculture primarily focuses on the production and consumption of olive oil, she has made important contributions to research concerning the nature and the role of farmsteads, particularly questioning their role as sites of human occupation and agricultural activity. For Foxhall 'the modern archaeological notion of a farmstead may well be an alien intrusion in terms of classical Greek thought, primarily because there is no ancient Greek word for 'farmstead' in a joined up American or European sense' (2002a, 216; see Osborne 1992a). The fact that there is not an ancient Greek word for a farmstead may not necessarily mean that they did not exist, primarily because the Greeks classified real property differently from our modern way of doing so (see Finley 1951; Pritchett and Pippin 1956; Lambert 1997). To explain further, real property was made up of its individual elements meaning that an οἰκία (house) could be found in the city as well as the countryside, and that it could be further defined by including additional information about the type of land or structures associated with it. Therefore, it is not sufficient to dismiss the existence of farmsteads solely because of issues pertaining to ancient and modern nomenclature. The difficulty in correctly naming these types of rural sites and structures is symptomatic of the challenging nature of research into ancient Greek farming. Simply put, the issue of farmsteads is a complex one, and there need not be one single explanation for all farms and their systems (Pečírka 1973, 114). Finally, we must remember that it is important not to get bogged down in the debates about the terminology used to describe farmsteads, and as argued further in Chapter 3, it is not as simple as identifying the evidence on the principle of 'one size fits all'.

Clearly, the correct methodology for identifying farmsteads in the archaeological record has not been resolved to everyone's satisfaction (see Bintliff 1994; Foxhall 2002a; Osborne 2002; Bintliff *et al.* 2002). But despite the fact that some researchers still maintain that a farmstead is an alien and intrusive concept into Greek thought, the identification of farmsteads themselves and their associated artefacts is generally consistent throughout different survey regions (see Chapter 3). The presence of these sites raises a host of further issues as to their interpretation, and their role in society and economy. These issues have been debated extensively over the past thirty years, and for the most part remain unresolved. Importantly, it is not enough for researchers to shrug their shoulders without attempting to suggest new methods to resolve these old problems (Pettegrew 2002, 271). These debates, which persistently muddy the water concerning the existence and interpretation of farmsteads, have become so entrenched that perhaps they will remain unresolved. Instead of rehashing these problems, the purpose of this monograph is to study the archaeological material and draw conclusions relating to the role of farmsteads based on this evidence.

What the works in this brief overview highlight is that this field is varied, complex, and reliant on both archaeological and textual evidence to inform the

modern researcher about ancient farming practices. While the various aspects of ancient farming provide context for this study, and are explored in it, the focus is on the archaeological evidence for farmsteads, with an aim of fully understanding their role and function in agricultural industry. With this in mind, the objective of Chapter 2 is to examine critically the textual and archaeological evidence for farmsteads and farming activities, with an aim of investigating variability in their role and function. By conducting a critical and in-depth examination of the textual and archaeological evidence associated with farming and farmsteads, I can begin to reconstruct how farmsteads functioned as centres for agricultural industry and habitation by surveying the variety of farming systems employed (extensive and/or intensive), types of settlement distribution (nucleated, dispersed, and/or mixed), land ownership (public and/or private), and the classes of ancient Greeks who farmed the land (elite people who predominately farmed using slave labour, and hoplite/yeoman farmers). The conclusions drawn from this chapter highlight that various farming systems, settlement distributions, and classes of farmer could inhabit any one socially and geographically defined landscape. Consequently, it is misleading to assign single types of farming systems to particular regions, and it is important to understand the adaptable, changeable, and fluid nature of farming choices.

Chapter 3, therefore, starts from the premise that in any one landscape, a variety of farming systems, settlement patterns, and economic success among farmers co-existed. For farmsteads then, the socio-economic circumstance of the farmer goes some way to explain the variability in size, location, ceramic assemblages, and agricultural installations. Therefore, instead of considering this variety of site types as diminishing our understanding of their role in the landscape, it is wholly possible that a number of different types of farmsteads were used and occupied contemporaneously by a broad spectrum of society. To explore this further, Chapter 3 examines the nature of the archaeological evidence for sites from excavations and landscape surveys termed as farmsteads to investigate the variety of the archaeological material, which in turn may reflect the conditions discussed in Chapter 2. Two of the key sticking points relating to farmsteads in past research are addressed in this chapter. Researchers in the past have attempted to define farmsteads both in temporal and physical terms, but the 'catch-all' term of farmstead has often failed to describe accurately the physical archaeological remains. Furthermore, recent research has attempted to formulate criteria for the identification of farmsteads. However, these are often either too specific to one type of rural site (i.e. towers), or too broad to identify differences between rural sites which might have supported a range of domestic and/or agricultural activity. The two connected aims of this chapter then are, firstly, to formulate criteria for the identification of farmsteads based on past and current research, and secondly, to discuss the types of rural site which had an agricultural role, with a conclusion that farmsteads, in all likelihood, served several roles incorporating domestic, storage, and agricultural activity. Finally, by generating an inclusive criteria, which takes into consideration the location, structures, ceramic

assemblage, and presence of agricultural tools, it is possible to identify distinctly different types of agricultural rural sites in one region, which in turn is indicative of the socio-economic circumstances of farmers.

Building on this conclusion Chapter 4 creates regional network models (in the Akte and Methana peninsulas) of agricultural activity from the farmstead classes developed in Chapter 3. These models draw on the existing textual and archaeological evidence discussed in the previous chapters and investigates them in a manner that has proved fruitful in other cultural and geographic contexts. The goal of mapping how time, distance, and visibility affected accessibility to and from the various farmstead types is to investigate the practicalities of farming, and the mobility of produce to and from markets. The conclusions highlight that the rural agricultural landscape consisted of many connections, between farmsteads of different types in the countryside, and between rural and urban sites.

To explore these circumstances further Chapter 5 sketches the nature of the micro-regional economy, economic objectives of farmers, and examines the practicalities regarding the flow of commodities. For the most part ancient Greece was an agrarian society, and market accessibility had a significant role in the ancient economy both for subsistence and for market-driven farmers. The purpose of Chapter 5 then is to discuss the role farming played in the economic objectives of individuals and households, with the goal of investigating the extent to which farming was undertaken as part of a mixed economy to ensure financial and familial success. I begin by examining the different types of economic objectives (subsistence or market-driven) employed by farmers based on the available archaeological and textual data. The variety of markets (urban and rural, fixed and temporary), are discussed with a view of understanding that both subsistence and market-driven farmers were compelled to engage in the selling of produce. These topics are reviewed with the intention of contextualising the importance of the flow of commodities between producers and consumers via different types of trade, either through neighbour/community exchange or market trade, as a necessity for a successful agricultural economy. The conclusions here stress that mobility across the landscape is driven, in part, to fulfil economic needs, and issues concerning accessibility of the countryside, farm, and market were a crucial consideration for most ancient farmers.

Farmsteads and pedestrian landscape survey

The subject of farmsteads and their identification, particularly in landscape archaeology, is often intrinsically linked to methodological issues surrounding the dating and classification of archaeological data (see Stewart 2013). The advent of archaeological landscape survey marked an important turning point in the research of ancient settlement patterns, demography, and rural activity. For the first time the archaeological remains noted by early topographers and archaeologists at the beginning of the twentieth century were being examined, recorded, and

interpreted in a holistic manner through pedestrian archaeology. This allowed researchers to begin to study the importance and role of the landscape not only as a medium in relation to urban centres, but also as an important place for social, economic, and religious activity. Methodological questions began to arise about best practice methods for the recording of sites, resulting in debates regarding the creation of a universal technique for artefact recovery, accurate terminologies, and fundamental questions concerning the visibility and density of sites, and even the very definition of a site. These topics became the focus of a number of conferences and workshops with an aim of attempting to address some of these issues within landscape survey (e.g. Keller and Rupp 1983; Barker and Mattingly 1999–2000; Alcock and Cherry 2004a).

Before I can begin this analysis, it is important to consider some of the issues affecting any comparison of survey data. A number of researchers have highlighted the problems of comparing data from surveys with differing methodologies (e.g. Attema and VanLeusen 2004). This is somewhat circumvented because of the similarities in the methodological approaches in each of the survey areas. However, that does not negate other issues, which might cause problems for comparisons. The issues and their possible resolutions raised in Terrenato's paper (2004, 36–49) are particularly relevant to this study and it is worthwhile here to summarise them below.

Terrenato asks 'what is it we want to compare, and for what purpose?' In essence, to achieve any comparability the researcher must attempt a like for like comparison. The first roadblock to any comparison is the intensity of the survey and the density of sites, which necessitates that only surveys of similar intensity can be effectively compared. Consistency of analysis is also another important issue. The creation of a formalised site-definition criteria means that sites from different surveys could be comparable (discussed further in Chapter 3). But the issues relevant to this approach imply that it might not be possible to create a formalised definition of a site because of the variability between survey areas (Cherry *et al.* 1991, 46–47). The discussion surrounding this subject, however, resulted in the direction of attention towards the accurate recording of site densities and the distribution of artefacts, which in turn increased the resolution of surveys.

There have been a number of intensive surveys in Greece beginning in the second half of the twentieth century. Among them the surveys of Boeotia (Bintliff *et al.* 2007), Asea (Forsén and Forsén 2003), Berbati-Limnes (Wells and Runnels 1996), and the Eastern Korinthia (Tartaron *et al.* 2006), have provided valuable insight into the social and economic roles of the countryside and the nature of rural sites in each region. The data from these surveys is discussed further in Chapter 3 here though two surveys bear particular mention, the surveys of Atene (Lohmann 1993) in southern Attica, and of the Paximadhi peninsula (Keller 1985), in Euboea. Both intensive surveys identified visible structural remains and ceramic assemblages as farmsteads. Indeed Lohmann has been an avid supporter of the concept that ancient farmers practiced continued habitation/agricultural activity in rural farmsteads

(Lohmann 1993; cf. Osborne 1992a). In Atene, the survey reported several sites with visible structural remains (including towers), a network of terraces, and ceramic assemblages reflecting activity similar to urban domestic houses. In Euboea, Keller's survey, conducted on the western flank of a crescent shaped harbour of the ancient city of Karystos, identified small structures, consisting of fewer than five rooms with ceramic assemblages consistent with those of domestic houses. The data from both these surveys identified farmsteads as such due to their lack of any clear indication of another economic or industrial role, their small size, the presence of agricultural installations, particularly in Atene, and ceramics indicating domestic activity. These surveys, and their respective farmsteads, have become paradigms for research into ancient farming, and often serve as comparisons for the data of other landscape surveys. Here the archaeological data from the Atene survey will be compared to the data from the Akte peninsula, Methana peninsula, and Eurotas valley, Laconia surveys in Chapter 3, with the aim of creating a comprehensive typology of farmsteads.

For Chapter 4 a detailed investigation of *all* survey areas would be impossible to carry out. Instead, I conduct a comparison of site types between the intensively surveyed areas of the Akte and Methana peninsulas. These surveys were chosen because of the high resolution of the ceramic data, similarities between the methodological approaches used, and the apparent differences in the historically documented socio-economic systems from each region. Alcock, in reviewing the available archaeological data from surveys up until the 1990s in *Graecia Capta,* classifies these two surveys as 'A' class in that they intensively record the density and distribution of artefacts with rigorous field methodologies (1993, 36–37). With reference to the surveys used in Chapter 4, both the Akte and Methana surveys have similar criteria for site identification, in that all small sites with evidence of domestic or agricultural activity are classed as farmsteads. In the following discussion the role based typology of farmsteads proposed in Chapter 3 will be applied to the evidence for farmsteads from the Akte and Methana landscape surveys, with the aim of reconstructing agricultural landscape for Aktean and Methana farmers by modelling the visibility of and mobility through each territory.

Several conditions affect the visibility, density, and collection of artefacts in survey, namely: erosion and modern agricultural activity, landscape, vegetation, visibility, and experience and motivation of the fieldwalker. These factors may have a marked impact on the types of material collected and counted in survey. However, artefact level issues will not adversely affect the results of the investigation in Chapter 4 because the case studies and the GIS analyses focus on a study of the role of different farmsteads in the landscape based on their location. Terrenato's discussion on the relationship between sites and their environments is particularly relevant. The author rightly comments, that even if the sites recorded in the survey represent a sample of the whole, this does not exclude the sample from providing valuable insight into how the landscape was used for agricultural activity (Terrenato 2004, 45). This is particularly true when considering the visibility of sites and the possibility of sites

missing from the archaeological record. For example, in the intensive survey of the Akte peninsula the surveyors noted the considerable number of pressing installations and artefact rich sites, which suggest a variety of activity in the landscape. Despite the intensive nature of the survey, some sites clearly remained undiscovered. For instance, when the farmstead at Delpriza, near Mases, was excavated as part of rescue excavations in connection to road building in the area, the site revealed evidence of a pressing installation with a press bed *in situ*, visible structural remains, and a small cemetery (see Kossyva 2011). This site was not identified in the original survey of the peninsula. Nevertheless, bearing in mind that some sites may be absent from the archaeological record, it appears that Terrenato's assertion holds true. It is also important to note that understanding the relationship between sites is still problematic, because it relies on attempting to apply social, political, and historical factors to the data.

Farmsteads then have had a difficult heritage. Modern, post-war construction might have destroyed a significant proportion of the visible structural remains of rural farms. In early scholarship, rural sites were noted, and to a certain extent taken as understood, to be farmsteads associated with particular territories. Early topographic research and isolated excavations alone make it difficult to understand how farmsteads related to each other and their urban counterparts. The advent and surge of landscape survey across Greece, with its rural-centric focus, has proved that there were numerous sites in the landscape, which displayed similar ceramic traits to domestic urban houses. However, site size, ceramic dating, and methodological issues have made roadblocks to understanding how these sites functioned as farms, and aided in the farmers' economic endeavours. In this book, I investigate these sites as just that, farms, with the aim of further defining and explaining how farmsteads were used by those who farmed the land.

Chapter 2

Ancient farming and farmsteads: sources, problems, and debates

Introduction

A chapter on how and by whom the land was farmed is paramount in any discussion on farmsteads. Since farmsteads reflect specific trends in the use and exploitation of both land and labour in the countryside it is necessary to understand what form these farming systems took and the class of person who was engaged in farming activity (Pečírka 1973, 114; Osborne 1987, 69). With that in mind, this chapter addresses the archaeological and textual evidence for ancient Greek farming and farmsteads, and critically discusses farming practices based on this evidence. By taking a thematic approach to the evidence and investigating farming systems, settlement distribution, land ownership, and the various classes of society who farmed the land, I aim to provide a social and economic context for the forthcoming discussion of the archaeological evidence in the following chapters.

Evidence for farming in texts

The written evidence for ancient Greek farming practices is scant. Unlike their Roman counterparts, there are no surviving Greek treatises written with the express purpose of detailing the practicalities of farming, consequently, we have to piece together a narrative of farming practices from multiple textual sources spanning several centuries and written with diverse purposes in mind. Hesiod, Xenophon, and Theophrastus provide the most cited and extensive surviving discussion on ancient Greek farming practices. Hesiod's late eighth/early seventh century BC poem *Works and Days* is written with the intent of understanding man's role in the universe, which for Hesiod is accepting work as part of the human condition (Most 2006, xxxix). A portion of the poem comprises of practical advice for the farmer (380–580), this information is expressed within the context of advising his brother Perses on how to lead a good life, which includes the maintenance of a farm and home. In modern scholarship, Hesiod's discussion on the agricultural calendar forms the basis of current research on the farming year (Isager and Skydsgaard 1995; Foxhall 2007). Undoubtedly, the insight Hesiod gives is useful, but he does not provide nuanced detail into every

aspect of farming instead, the advice he offers fits into the bigger themes of the poem. Similarly, Xenophon's fourth century BC philosophical treatise the *Oikonomikos* features the fictional character of Ischomachus who is presented as the 'ideal type' of an Athenian citizen/farmer. He manages his household, estates, and slaves correctly, while always preparing for military service, and maintains a presence in the *agora* to engage in the political life of the city. This text is the most comprehensive narrative detailing the management and workings of a farm including information on field preparation, maintenance, correct planting, care of both cereals and tree crops, and a discussion on the appropriate training of a farm bailiff. Importantly, however, the treatise on agriculture is couched in a philosophical discussion between Socrates and Ischomachus on how a good man inherently knows how to farm (Xenophon, *Oikonomikos* XV.8–13). Finally, sections of Theophrastus' botanical works are devoted to crops associated with agriculture. He offers 'scientific' information about the care and growing of plants, but provides practically no information on how farming was conducted in other respects (Skydsgaard 1992, 9). The focus of Theophrastus' work, therefore, is not a discussion of agriculture as a whole, or of the people who farm, but rather his discourse comes 'from the point of view of the plant' (Isager and Skydsgaard 1995, 7). These sources, which span the period from the eighth to the third century BC, differ in the nature of agricultural details. Furthermore, it is important to remember when using these texts the purpose for which they were written and the extent of the disparity between the reality of farming and the narrative (Skydsgaard 1992, 9).

The agricultural information that comes down to us from the narratives of textual sources is often generalised. Conversely, the evidence from inscriptions is usually specific relating to individual properties. Unlike the generalisations provided in the narrative texts, these inscriptions provide vital evidence for the contents of farms, which can then be compared to the archaeological evidence. The inscriptions most often cited in connection to agriculture are *horoi,* The Attic Stelai (*poletai*), leases, and inscriptions detailing the 1% tax on the sale of public land (*rationes centesimarum*). *Horoi* inscriptions give notice of the encumbrance of the property as security on a debt, and private *horoi,* detail the types of mortgages and loans associated with these transactions (Fine 1951). Importantly for the study of farmsteads, they give clues as to how farm land and farmsteads were classified. For instance, *horoi*, which refer to farms often, use the terms χωρίον καί οἰκία (land and house) and its derivatives (Jones 2004, 24; see further Pritchett and Pippin 1956, 261–269; Langdon 1990–91, 209; cf. Osborne 1985a, 21). The *poletai* records, known collectively as The Attic Stelai in modern scholarship, list the possessions confiscated from those involved in the mutilation of the Herms in Athens (415/4 BC) (Langdon 1991). It is generally accepted that these lists represent the contents of an elite Athenian's farm, including those beyond the borders of Attica, and because of the nature of these records, they cannot be used as paradigms for the contents of a 'typical' family farm. But helpfully these inscriptions list common words (Table 2.1), associated with farms, farming, and agricultural tools (Pritchett and Pippin 1956, 269). Therefore, the *poletai* form an integral part of the

Table 2.1: Interpretation of words designating real property (Pritchett and Pippin 1956, 269)

	Greek	*Translation*
1.	ἀγρός	Field for cultivation in the countryside
2.	γῆ ψιλή	Land cultivated for cereals, vines, and the like
3.	γήπεδον	Plot of ground (exact meaning uncertain)
4.	δρυινών/πιτυινών	Oak grove
5.	κῆπος	Garden (not specialised)
6.	οἰκία	Private residence
7.	οἰκόπεδον	House-site
8.	ὀργάς	Woody mountainous tract
9.	πιτυινον	Pine grove
10.	συνοικία	Tenement-house
11.	χωρίον	Land, landed property, estate

discussion of farming and farmstead terminology and offers a valuable insight into not only what could be stored on farms and the agricultural tools used, but also how ancient Greeks classified agricultural sites.

The leases of land, the issuing of leases, and the leasing authorities, are more complicated to understand with regard to their role in farming than in the case of the *horoi* and *poletai* inscriptions, and have been discussed extensively in modern scholarship. This complication is, primarily, because there was no one governing institution for the Greek world issuing leases with a set rubric of information on each inscription (Walbank 1991, 152). As a result, the information on leases is not consistent. For example, leases from Attica (and elsewhere) often dictate what is to be planted on the land, and how it should be tended, in contrast, however, leases from Boeotian Thespiai remain silent on both of these issues (Pernin 2004, 223). But, unlike the *horoi* and *poletai* inscriptions, leases appear to be common throughout most of the Greek world (Walbank 1991, 149–150). The epigraphical records show several categories of lease, which have been discussed extensively elsewhere (e.g. Jameson 1982; Osborne 1985a; 1985b; 1987; 1989; Papazarkadas 2011; Pernin 2014). Briefly, the purpose of leases, and issuing of leases, varied in different city-states. In Attica, for example, aside from polis-level leases, leasing of land was organised and monitored via groups (either civic, social, or religious) at a local (deme/sanctuary) level. To explain further the demarch could lease out property on behalf of the deme, as in Eleusis the demarch acted as the leasing agent of a quarry by the decree of the local assembly (*SEG* XXVIII 103.1.23), equally the demarch could act as mediator (*IG* II^2 1672) between lessee and Attic sacred precincts (Papazarkadas 2011, 114). In practical terms, leases from public authorities provided important income, which would help cover running costs of demes and sanctuaries (Burford 1993, 22). Aside from revenue opportunities, leasing of certain plots of land via small social groups or committees

(μέρη) could help to define social status. For instance, an investigation of the leases issued from such a committee at Kytheros (*IG* II^2 2496) indicates that two families were involved in the lease and at least one of these families were upper class, suggesting that the transaction had a social role for the participants beyond providing a source of income (Papazarkadas 2011, 115). Similar trends concerning the renting of land for their social importance rather than monetary success can also be seen in Delos where large contiguous plots of land were rented as prestigious investments for elite absentee tenants (Osborne 1989, 304). Leases could also remain within families, as in the case of the leases at Thespiai, where in the majority of instances, the lease for a plot of land is transferred between close family relations (Pernin 2004, 224). This evidence suggests that leases could be issued based on family/social ties, as well as through civic and/or religious channels. Therefore, the leasing of land (sacred and public) served as a source of income for the deme and sanctuary, in addition to being a mechanism creating and sustaining relationships between social/family groups.

The fourth century Athenian *rationes centesimarum* record the one percent tax on the proceeds of the sale of landed estates (Lambert 1997, 213; Jones 2000, 78). This sale was a unique event and the accounts provide a snap shot into what made up an Athenian farm in the fourth century BC. There are five different types of property (compare Table 2.1) recorded on the inscriptions: χωρίον (land) alone appears 60 times, ἐσχατιά (marginal land) appears 22 times, χωρίον καί οἰκία (land and house) eight times, and χωρίον καί οἰκόπεδον (land and structure) appears once as does χωρίον καί κῆπος (land and garden) (Lambert 1997, 226). Lambert concludes that 'in most cases χωρίον καί οἰκία (land and house) seems likely that it was sold as a "farm", i.e. a piece of agricultural land with associated house, or possibly other farm structures' (1997, 226). These inscriptions provide useful insight into the classifications of different types of land and structures located on them. But, they do not provide information about the contents of the farm or about anyone associated with it.

Finally, forensic speeches also offer evidence for ownership of farms and farming practices in Athens and Attica in the Classical period, with a focus on the period *c.* 400–340 BC, when most of the speeches were written. But as with all the textual evidence, it is important to understand their context and purpose. These speeches were written for the defence or prosecution of people involved in litigious cases, and importantly, reflect situations when something has gone wrong. Therefore, one must not take descriptions of property and wealth at face value. But that does not mean that these speeches become redundant in research into farming. Despite the problematic nature of such documents, they do offer valuable insight into trends in settlement and farming systems. For example, a number of inheritance cases provide information on the approximate size of farms and what crops they grew (e.g. Isaeus 9; Demosthenes 42 & 43), while other speeches provide information about the nature of settlement and habitation on the land (e.g. Demosthenes 55). These topics, and others, are discussed further in the following sections. Crucially, one must be cautious about the truthfulness of the information relied upon by the

writers of forensic speeches, but that does not mean that they should be excluded from any discussion of farming.

The purpose of this section was to discuss the thematic and historical context for textual sources used in research into ancient Greek farming practices. An important point to take from this discussion is the varying detail available in the texts. Because of this, the researcher must use material from different contexts and periods to piece together a coherent picture of ancient farming practices. Consequently, an awareness of the original purpose of the text is paramount when employing this evidence to discuss ancient Greek agriculture. Undeniably, the issues discussed here, particularly pertaining to leases, are diverse and complex. Nevertheless, these texts are integral sources of information for farming practices, particularly those that are not discernible in the archaeological record. Therefore, although it is often fraught with difficulties, the application of textual sources in conjunction with archaeological data can help yield invaluable insights into farming systems, and more to the point, the role of farmsteads in agricultural industry. In the following sections then the texts and archaeology are used to reconstruct the various types of farming activity employed within the temporal constraints of this study, the purpose of which is to provide a context for the following chapter's discussions on the archaeological evidence of farmsteads. The topics raised in this chapter, will be raised again in the conclusions of this research, with the added benefit of the revised investigation of the archaeological data. The aim of returning to these issues will be to address the two important questions: how representative are these texts for actual farming practices? And, was there a standardisation in farming practices for the whole of Greece?

Farming the land

The farming systems employed in ancient Greece have implications for the types of settlement, habitation, labour, and agricultural economy, broadly the debate over farming systems revolves around whether farmers farmed their land *extensively* or *intensively*. But before discussing farming systems three points about irrigation, land fragmentation, and farm plot size need to be addressed. These issues affect all of the discussions in the forthcoming sections, and without going into regional trends, we can only roughly sketch generalities about the size of plots and their nature. The debate concerning the extent of irrigation and water management for ancient agriculture is an important one. Briefly, scholars including Hanson (1999, 60–63), and Horden and Purcell (2000, 244–247) suggest that irrigation and water management was an inherent part in agricultural activity in the Classical period and earlier, while others argue that there was no complex water management system in ancient Greece (see Gallant 1991, 56–57; Crouch 1993; Briant 2001; Forbes and Foxhall 2002, 89ff). For example, a third century BC inscription from Tinos (*IG* XII 5, 872, 1.18) describes the sale of a house in the countryside (χωρία), and included in the sale are water pipes, that may have been used to water crops on the property. But this example from Tinos

is a rarity; we can assume that small landowners would employ nearby water sources in the form of wells and springs. Several natural water sources were noted in the survey of the Eurotas valley, Laconia, in close proximity to rural sites (Catling 2002, 172). In Methana, however, the landscape has very few natural water sources, which resulted in the inhabitants of the peninsula being reliant on the storage of water in large underground cisterns in addition to employing dry-farming techniques (James *et al.* 1997, 6–7). This topic is a somewhat underexplored area for ancient farming practices, and in general terms it is likely that Greek farmers did have a system of irrigation, using precipitation or ground water, to farm smaller plots of land and to water crops which needed intensive maintenance (Oleson 2000, 205–208; Krasilnikoff 2002, 54–55; 2010; Margaritis and Jones 2008, 161–162).

Turning to farmed land, we cannot resolve the question of the contiguous or fragmented nature of plots in ancient Greece because there is not enough textual or archaeological evidence to confirm their nature. Where the evidence suggests that traditional farming methods were employed or the land was known to be farmed with large slave or dependent labourer labour estates, as in Messenia, then it is likely that plot sizes formed large, contiguous areas (Bintliff 2001, 384). But such conclusions are not possible in the largest number of cases and periods. There are two reasons put forward as to why a farmer may have chosen fragmented plots. The nature of partible inheritance in the Greek world meant that farmland eventually became more and more fragmented over time (Osborne 2002, 214). This implies that farmland would be divided within the family and possibly sections of it sold off. Evidence from forensic speeches, albeit for a specific locality (Athens) and time period (*c.* 400–340 BC), underlines the importance of inheritance, particularly in the case of rich landowners. The consequences of fragmentation of farmland through inheritance could be a very contentious issue as shown in Isaeus 9 and Demosthenes 43, where in both cases inheritance of farmland is disputed amongst family members. Social and economic factors may also make farmers work fragmented plots to exploit different topographic and climatic resources for crops; this in turn means that there would be reduced risk of crop failure (Osborne 1987, 39; Foxhall 2006, 269). Land fragmentation and plot size is also dependent on the extent of the *chora* of a *polis* as well as the process of partible inheritance. In the case of land rich Athenian farmers at least, they could inherit both prime agricultural land and marginal land identified by the word ἐσχατιά (Jameson 2002). Generally, one would expect that the richer individual would have owned and cultivated the most fertile land, in that they were able to buy land rather than be confined to inherited marginal land, as poorer members of society might have been. But the case presented in Demosthenes 42 implies that even though the land is marginal it is economically successful. In the speech, the plaintiff takes witnesses εἰς τὴν ἐσχατιὰν αὐτοῦ 'to his outlying farm'.

> I took some of my friends and relatives, and proceeded to his outlying farm at Cytherus. At first I led them around the farm, the circuit of which was more than forty stades ... After this I asked him where his threshed grain was, for by the gods and goddesses, men of the jury there were two threshing floors, each one nearly a plethron in extent. (42. 5–6)

Obviously, there is a certain degree of rhetoric in this passage, and it is in the speaker's best interest to appear poor in comparison to the defendant. But this passage does illustrate that large successful estates were acquired through inheritance, which were deemed of marginal agricultural quality. The textual sources also suggest that farmers could purchase and rent plots of land within the *chora* of their city and further afield. For example, the *poletai* records indicate that one citizen owned land and farms within Attica and Thasos (*poletai* 6.55–56 Pritchett 1953, 271), and in Lysias 7 the speaker clearly owns a number of plots of land in the plain (ἐν τῷ πεδίῳ) (7.24). These texts imply, for the elite at least, particularly in Athens, that land holdings could be expanded from what was inherited, the reasons for which may have been partly in relation to the location of the plot and the quality of the soil. Therefore, to conclude, at least in Attica, the Athenian farmer could carry out agriculture on fragmented plots for several complex and interrelated reasons by choice and necessity.

Concerning plot size, the archaeological and textual evidence present two different pictures. Demographic, epigraphic, and textual studies indicate that farm size may have depended on the status of the farmer/owner. For instance, it has been suggested that the 'hoplite' farm may range between 40–60 *plethra* (4–6 ha), and farms of the wealthy as much as approximately 200–300 *plethra* (20–30 ha), based on the size of plots of land appropriate for men of citizen status (Burford 1993, 67–68). These estimates are based primarily on the evidence from Athenian forensic speeches, which means that caution should be exercised in interpreting plot size. For example in Demosthenes 42 the plaintiff relates that the circuit of the farm as 40 *stades* (quoted above), which suggests (based on the circumference) that the total area of the farm was between 200–400 ha. As stated below, one must be aware of the rhetorical nature of these speeches and their propensity to distort reality in favour of showing the speaker in the best possible light. Indeed, the above figure has been questioned in modern scholarship, and it is likely that Phainippos' farm was in reality much smaller than that (see de Ste Croix 1966, 109–114). Accordingly, the figures from forensic speeches should be taken as guidelines for farm size, not as definitive proof of precise plot size.

Socio-economic studies estimated the extent of farmland needed to support a family of five is *c.* 2–5 ha or 20–50 *plethra* (Jameson 1977, 131; Gallant 1991, 82–92). Archaeological evidence for continuous field walls has been identified at the Cliff Tower in Sounion and the C-54 farm in Karystos (Langdon and Watrous 1977, 173–175; Keller and Wallace 1988, 154). At the Cliff Tower the approximate extent of the land enclosed within the wall was 180 *plethra* (18 ha) and at Karystos the wall may have enclosed *c.* 90 *plethra* (9 ha) (Keller and Wallace 1988, 154). Similarly, at Tower A, Vathychoria, a double-faced wall *c.* 20 m long was noted 'a few meters to the north' of the tower, within the precinct of the wall, the area was littered with roof tile and glazed pottery (Muller 1982, 391). Although the full extent of the wall was not recorded, it is clear from the ceramic evidence, that activity at the site was

contained within the wall. These examples could be conceived as walled compounds, which incorporated areas for habitation, storage, and cultivable fields. The textual evidence suggests that there were instances of walls enclosing the entire property. In Demosthenes (55.3) the speaker, while explaining that he and his neighbour have lived on the land all their lives, claims, 'my father built the wall around this land almost before I was born ...' Epigraphic evidence too, instructs the lessee on the building and maintenance of structures on the farmed land, and an inscription from Thasos (133) recommends that the lessee, along with constructing a building with several rooms should also build a rectangular wall 'five cubits [2.3 m] above the ground' (Perrin 2014, 506). The existence of walls, therefore, can help us understand the extent of the principle farm. The surviving evidence, not only of structures for storage and habitation, but also of substantial walls to demarcate land, denotes that time and money was invested in the construction and upkeep of farms, which in turn implies that these sites served as more than temporary or ephemeral bases for agricultural activity.

Importantly it must be borne in mind that the scatters of pottery identified in survey are incomplete, and in the majority of cases, the extent of the scatter only represents the area of occupation rather than the extent of cultivated land. Therefore, the sizes of farms mentioned above in texts is incomparable to the evidence from survey because one provides information about the extent of cultivated land including the site for occupation, while the other provides only the centre for occupation, and in very rare occasions the extent of cultivated land around the occupation site. The texts and archaeology agree, however, when it comes to the information about the nature of the structure and activity it might have supported. New approaches to the archaeological data, specifically the application of GIS technology, can certainly go some way to clarify the extent of farmed land around a habitation site. For example, moving beyond the borders of mainland Greece to the *chora* of Metaponto, a detailed and exhaustive analysis of the spatial and temporal distribution of farmsteads was carried out as part of the survey project (Carter and Prieto 2011). The application of complex statistical analyses to the archaeological data helped reveal not only a distinct signature for farmsteads in the region, but also patterns in the distribution of these sites, via an investigation of the relationship between farms and 'division lines' noted in the landscape. The conclusions from their investigation suggested that these lines formed property borders, which may directly relate to the farmed land surrounding the occupation site (Dana 2011, 109–112). Undoubtedly, the application of GIS technology can go some way to investigate the extent of farmed land, but as the investigators at Metaponto point out, these results are speculative due to our lack of knowledge regarding the circumstances, which led to the building of these division lines, and our inability to reconstruct accurately the ancient landscape (Dana 2011, 115). Therefore, this type of analysis is certainly helpful, and provides opportunities for further focused questions to be asked, but in the majority of

cases, it is still difficult to reconstruct the extent of individual ancient farms based on pottery scatters alone.

Traditional/extensive farming

The traditional/extensive model describes a biennial fallow field system, with little/no land maintenance (i.e. terracing), and nucleated settlements, where pastoralism is a distinct entity (Cherry *et al.* 1991, 463). This farming model supposes that recent pre-industrial farming methods in Greece reflected ancient practices, in that a combination of biennial fallow and transhumant pastoralism was the farming system of choice for the ancient Greek farmer (Isager and Skydsgaard 1995, 108–114; Margaritis and Jones 2008, 160). In this model, farming was carried out on a biennial cycle in which the crops, primarily wheat and barley, were alternated with fallow fields that were ploughed to prevent the growth of weeds and to restore the soil's moisture and nutrient contents (Halstead 1987, 78–79; Cherry *et al.* 1991, 463; Isager and Skydsgaard 1995, 23; Foxhall 2006, 266–269). In this system, no other field maintenance practices occurred, including manuring or terracing of the land. Importantly, farming and animal husbandry were seen as two distinct entities and were not related. Accordingly, animal husbandry was carried out in a pastoralist system of grazing of the lowlands in winter months and the highlands in the summer months. Habitation too, in general terms, would consist mostly of nucleated settlements because the nature of this farming means that there are slack times in the agricultural calendar, and therefore, a reduced need to be on the land (Cherry *et al.* 1991, 463–464; Alcock *et al.* 1994, 147).

Textual sources suggest that this system was indeed employed by some farmers. For example, Hesiod and Homer mention that the field be ploughed three times (*Works and Days* 462; *Iliad* 18.541), while Xenophon's *Oikonomikos* specifies that the ground should be broken up in the spring to avoid weeds taking hold (XVI–XVII). There are benefits to a system of farming like this; manual labour is kept relatively low, and it also reduces the amount of time needed in fields which means that farmers are free to carry out community, social, and political duties (Jameson 1977, 125; Osborne 1987, 70–71). But, on the other hand, the yield from traditional farming systems would not be very high (Halstead 1987, 82). A contentious issue surrounding the debate into extensive farming is the nature of pastoralism. The model for pastoralism in extensive farming consists largely of amalgamated herds of animals from the whole community grazing lowland areas in the winter and mountain pasture in the summer. But the extent to which farmers engaged in pastoralism in ancient Greece is much debated (see Hodkinson 1988; Skydsgaard 1988; Forbes 1995; Nixon and Price 2001). On the one hand, due to the nature of city-state territories and concern over theft that distances travelled by herders were quite short (Hodkinson 1988, 53). For example, in Demosthenes 47.52 when Euergos and Mnesiboulos raided the plaintiff's farm they took 50 sheep and a shepherd which were grazing nearby, in this instance, however, it seems that proximity to the owners farm did not prevent theft. Grazing animals close to settlements meant that farmers could combine the tending of crops with

that of animals (Hodkinson 1988, 53). On the other hand, in relation to the distances travelled by sheep and their herders Skydsgaard cites the passage from Sophocles' *Oedipus Rex* as an example of long term transhumance, where the shepherds are in the mountains for the summer months (1121ff) (Skydsgaard 1988, 75; Isager and Skydsgaard 1995, 99–101). In the intensive farming model fodder was grown on the farm which meant that animals could be fed year round close to settlements. For example, a lease inscription does stipulate that part of the field must be planted for fodder (*IG* II^2 2498.12–13; Jones 2004, 30). Nevertheless, Skydsgaard is confident that there was a division between cultivation and transhumance and concludes 'I must confess that I am not convinced by the second model, a sort of mixed agriculture in a more modern sense' (1988, 83).

Archaeologically, the site of New Halos provides clues for the relationship between cultivation and animal husbandry. Zooarchaeological analysis of the material showed that domestic mammals account for 94.7% of bone remains found in the six excavated houses (Prummel 2003, 182). The animal remains come from species of horse, dog, pig, sheep, goat, and cattle. The bones found in the houses were charred and shaped into knucklebones and *astragali* (Prummel 2003, 215). Prummel argues that a vast amount of meat consumed by the occupants of the six houses comes from left-overs of sacrifice, and that due to the low age range of the animals found the animals were raised close to the city for their meat (2003, 216). Therefore, animals were continually present, perhaps even housed within the city walls, and were taken out daily for grazing. Agricultural tools were also found on site including shears, hoes, pruning hooks, and sickles, which suggest that some cultivation was also taking place (Haagsma 2003, 75). In contrast the textual and archaeological evidence from Arcadia, as discussed by Roy (1999, 320–381) and – in relation to the Asea valley – by Forsén and Forsén (2003, 266–267), suggests that large scale transhumance of amalgamated flocks was conceivable. By way of further explanation, the textual evidence – in particular the inscription regulating grazing around the temple of Athena Alea at Tegea (*IG* V dating to the late fifth–fourth century BC), and a later Hellenistic account in Polybius describes the Spartans forcing Megalopolitan flocks out of Spartan territory (204 BC) – implies that '[the] animals, apparently regularly, were driven from one place to another, most likely looking for new pasture' (Forsén and Forsén 2003, 267). In the case of Asea and Arcadia, unlike New Halos, it appears that large-scale transhumance was a fully realised economic activity located away from settlements. Therefore, the matters, which affected the choices concerning transhumance, were dependant on a number of factors, including the nature of the landscape and socio-economic objectives of the particular region/area. Important is the fact that decisions relating to pastoralism and transhumance in ancient Greece are not as clear cut as a choice between mixed farming, on the one hand, and sole transhumance on the other, and that the choices made by the farmers depended to a large extent on their economic, geographic and social positions (Forbes 1995, 338). Archaeological evidence for extensive farming practices is nearly impossible to

identify. The existence of villages or nucleated settlements cannot alone stand as the sole indicator of extensive farming. Neither is it possible to identify large pastoralist sites in the landscape, primarily due to their transient nature.

Finally, the discussion of extensive farming practices in ancient Greece presupposes that modern pre-industrial farming practices are analogous to ancient practices (Margaritis and Jones 2008, 160). Although the theory of extensive farming practices have gained traction over recent years, particularly in relation to Athens (see Moreno 2007), there is an inherent problem with the assumption that farming systems used today are similar to those in the classical world since pre-industrial farming practices are unique to their setting, reflect their historical context, and are open to change (Halstead 1987, 78–83).

Intensive farming systems

Intensive farming is characterised by the cultivation of grain crops alternated with pulses, which provide fodder for animals, smaller herds of animals grazing close to settlement, intensification of land maintenance with manuring and terracing, increased free/unfree labour force, and dispersed settlements located on farm plots (Jameson 1977, 128–129; Cherry *et al.* 1991, 463–464; Jameson 1994, 56–57). The adoption of intensive farming by ancient Greek farmers has been primarily explained as a response to growing population and 'land hunger' (Jameson 1977, 128–129; see Gallant 1991, 41–45; Catling 2002, 243). Furthermore a typological sequence of fallow systems (short fallow, annual cropping, and multi cropping) based on the level of agricultural intensification has been developed and applied to the textual and archaeological evidence for practices identified in the ancient world (Boserup 1965; Gallant 1982; 1991).

It is feasible that the ancient Greeks employed all three fallow systems depending on social and economic conditions (Jameson 1977, 127; Gallant 1991, 56). Xenophon alludes to both short fallow and annual cropping in the *Oikonomikos* (XVI.14–15) and Theophrastus refers to multi-cropping in different parts of the Greek world (*Historia Plantarum* 8.4.6; Gallant 1991, 56). The epigraphic evidence from leases too indicates that the intensive farming systems were proscribed as much as the extensive systems. Therefore, the choice of farming system used by the farmer may have depended on several factors including the quality of the land, population density, economy of the region, as well as the status and wealth of the occupant/farmer. For example, a lease from Amorgos (*IG* XII 7.62) forbids annual cropping (see Jameson 1977, 127). Another lease from Rhamnous stipulates that half the fallow land should be cultivated with pulses (*IG* II^2 2493; Garnsey 1989, 94).

Inherently connected to this issue is the extent to which the ancient Greeks fertilised their land with manure. 'The manuring debate' focuses on whether the scattering of pottery found in survey, often isolated and away from large settlements or structures, could indicate evidence of small landholdings (Alcock *et al.* 1994, 157). The theory of manuring as a reason to explain the occurrence of pottery in the countryside

serves two purposes in research. Firstly, it helps survey archaeologists explain 'off-site' scatters of pottery, which in some instances 'carpet', the landscape (Bintliff 2002, 30; see Bintliff and Snodgrass 1988). Secondly, it has led researchers to identify the area as a site possibly connected to an ancient farm (Alcock *et al.* 1994, 157). We can then deduce that the site was intensively farmed because of the 'manured' fields. The manuring hypothesis is very much still a contentious issue not only for what it says about farming itself but also because of its influence in practice on the interpretation of the results of field survey and collection (see Pettegrew 2001; Bintliff *et al.* 2002). For some, manuring is an indication of intensive exploitation of landscapes by those farming them (e.g. Bintliff and Snodgrass 1988; Bintliff 2002; Bintliff *et al.* 2007). In Thespiai, for example, a 'carpet' of sherds, the majority of which dated to the Classical period, extended three kilometres out from the walls of the city, these consistently distributed sherds may be indicative of the people of the city intensively manuring their fields (Bintliff 2002, 30). Evidence from the excavated houses at Halieis and particularly the existence of κοπρών (domestic cesspits), 'should thus be viewed not only as a cesspit or garbage pit, but also as substantively contributing to a profitable compost heap or mulch pile' which may have been used to manure agricultural fields outside of the city (Ault 1999, 557). This hypothesis suggests that waste matter would be transported from urban houses and spread as fertiliser across fields. Accordingly, the off-site scatters, which make up the evidence for manuring, are explained as evidence for the regular emptying of κοπρών. This theory has met with criticism, particularly about issues concerning the types and quantities of ceramic material found at off-site scatters, and regarding the ancient social norms for the accepted disposal of human and animal waste (see Foxhall 2007, 239–240). It is clear that several factors are at play, including but not exclusively, ancient manuring practices, which create these off-site pottery scatters (see Forbes 2013). In some circumstances certain areas of the landscape were manured, particularly where crops required intensive management (e.g. olives), therefore, the areas which were manured would be targeted, quite small, and not extensive (Forbes 2013, 590). Textual sources do indicate that manure was an important commodity. For example, an inscription from Tegea lists the sale of dung (*IG* V2.3) while other leases prohibit the removal of manure from the farm (*IG* II^2 2493). There are also references to the spreading of manure in Xenophon and in Aristophanes (*Oikonomikos* XX.4; *Lysistrata* 1174; see Alcock, *et al.* 1994, 145ff).

It is clear that these entrenched views are proving unhelpful in reconstructing the ancient agricultural landscape, and as Pettegrew comments, the different attitudes to manuring and the methodological approaches to interpreting low density scatters needs to be challenged and tackled to 'create more robust explanations based upon the fullest range of methods and evidence' (2002, 271). Such an attempt has been made on the Nemea Valley (NVAP) survey's data, where a recent statistical analyses of sherd densities and sherd weight concluded that the results from off-site scatters dating from the Archaic to Hellenistic periods 'provide evidence for dispersed places of rural storage' that had previously gone unrecognised in the survey (Cloke 2016, 235).

Furthermore, due to the differences between on-site and off-site ceramic material it seems that manuring (Cloke 2016, 235–237) became widespread only at the beginning of the Roman period, and that the low density scatters from earlier periods reflect small transient sites rather than blanket manuring in Nemea. This conclusion helps illustrate that a more nuanced approach to defining sites and interpreting pottery scatters is needed for us to fully comprehend the complexity of activity and the site types available to the ancient farmer. The following chapter addresses this need by outlining a role-based typology for the identification of such sites. For now, however, it is important to continue our investigation of the farming practices which underpinned agricultural industry.

Regarding land maintenance, terracing, like manuring, has come under scrutiny in modern scholarship. Regarding the textual evidence for land management, the word ἐσχατιά can be used to describe marginal land (Lambert 1997, 228). In the *rationes centesimarum,* χωρίον and ἐσχατιά are most frequently used to categorise the land on sale. In the case of these inscriptions, it seems that there is a distinction between the two types of land; however, this distinction may reflect a wish for uniformity in the inscriptions rather than a realistic description of the type of land (Lambert 1997, 228). Nevertheless, further epigraphic studies have also shown that ἐσχατιά along with φελλεύς (meaning thin, stony soil) are used to describe marginal land (Krasilnikoff 2000, 179; 2008, 40). This marginal land may have required terracing or other forms of land maintenance (Jameson 2002, 63–65; see Krasilnikoff 2000, 181; Burford 1993, 111). Consequently, when the ancient Greek heard ἐσχατιά they understood it to mean that the land required further maintenance, which may have included terracing (Jameson 2002, 65). Further linguistic evidence for terraces hangs on the usage of the word αἰμασιά, translated as a freestanding dry wall, an area enclosed in a wall, or a terrace in particular a walled in earthen bank (Price and Nixon 2005, 666). As seen in Menander's *Dyskolos* a slave fixes a terrace wall (αἰμασιά) for his master (377; Jameson 1977 131–132). It is thought, however, that this term is too ambiguous and does not clearly indicate the use of terraces in Classical Greece (see Foxhall 2007, 68). Furthermore, the ancient Greeks may have used other means of land maintenance instead of dry wall terracing, which would not survive in the archaeological record (Foxhall 1996, 65).

The identification of ancient agricultural terraces is also a difficult subject in archaeology. The earliest suggested terrace system identified archaeologically comes from a Minoan settlement on the island of Pseira. The terraces were dated by the Minoan sherds within them, masonry style, and the terrace's proximity to habitation sites. In addition, a terrace system on the island of Chalki has been dated to the Archaic period based on its polygonal masonry (Rackham and Moody 1992, 128–129). Further terraces have been identified close to farmsteads at Atene and Sounion in Attica (Lohmann 1992, 51; Young 1956, 124). Bradford, studying the Second World War aerial photographs in the early 1950s, believed he identified, a series of ancient terraces along Mt Hymettos (1956, 179). These terraces are now lost due to

the post World War II developments around Athens. There has been little full-scale archaeology carried out on terraces alone. Given the limited evidence, we can only identify terraces as ancient with a fair amount of confidence when they are near an ancient site, they are constructed with similar methods to those employed for ancient structures, and they contain ancient ceramic material. An example of this is to be found at *Ferme aux Jambages du Granit* on Delos, a rural site and structure occupied from the Classical period to the first century BC (Brunet 1988; 1989). Terraces were identified beside the farm, which were deemed contemporary to the site due to the pottery and the similarity in the construction techniques of the farm and terraces (Brunet 1988, 787–788; 1990). Despite the difficulty in assessing the nature and extent of ancient terracing based on the textual and archaeological evidence, further insight is available through the employment of scientific soil analysis. For example, detailed stratigraphic soil and sediment analysis in conjunction with radiocarbon dating on the island of Kythera suggests that there were terracing from at least the early second millennium BC onwards. Additionally, these terraces were found close to Neopalatial farmsteads which suggests that if terraces, with comparable masonry techniques, are found close to Classical-Hellenistic farmsteads (as in Delos) it is conceivable that the terraces are of a similar date and relate to the role of the farmstead (Krahtopoulou and Frederick 2008, 580–581). It is wholly possible, therefore, that terracing systems were used for farming in ancient Greece, and further insight into their use may yet be gleaned as more sophisticated analytical techniques are developed and applied.

To conclude, to what extent is there agreement about the farming systems employed in ancient Greece? For Isager and Skydsgaard, the new model for farming suggested by Halstead, and developed further by Gallant (1991) and Garnsey (1989), remains simply a model. The authors urge that we must be cautious when applying this model to ancient history (Isager and Skydsgaard 1995, 113–114). There is no doubt that caution is needed, indeed it is called for in most aspects of research into farming and farmsteads in ancient Greece. As stated in the introduction to this chapter, one of the primary reasons for the contradictory nature of the texts and archaeology is because we have no direct manual discussing agricultural practices. Instead, research into ancient Greek farming is based on indirect references to farming in various types of texts, and epigraphical evidence, which provide only snap shots of the lives of farms and farmers. As we have seen, these sources do not provide a uniform picture of farming practices within and throughout regions. Perhaps, this is in part a result of the fragmented nature of texts that survive, however, when used in conjunction with the archaeological evidence, this lack of uniformity lends weight to the possibility that there was a variety of farming practices, and the choices, which the farmer made about how to farm, were directly related to natural conditions of the territory, and more complex socio-economic factors. Finally, a better way of understanding farming in ancient Greece then, is not to give primacy to one or another farming system, but instead to understand farming practices as a continuum, meaning that the choices made by the farmer were open to change

depending on a variety of social, ecological, and economic reasons. The best approach to understanding farming practices, therefore, is not to see farming as monolithic but, rather, as fluid and adaptable to economic and demographic pressures (Jameson 1992, 135; Whitelaw 1998, 236). These changes then would result in the waxing and waning of intensification during certain times, which results in a turn to extensive farming (VanAndel and Runnels 1987b, 327).

Settlement patterns

It is conceivable that farmers employed extensive and intensive farming systems, and most likely farming systems worked on a continuum, from extensive to intensive. It is clear that no one farming system suited the entirety of Greece. Instead, it has become evident that local social, economic, and topographic issues governed the choice of farming system, and these issues affected settlement patterns (Osborne 1987, 69). Here, I present the archaeological and textual evidence for various settlement patterns (nucleated, dispersed, and a combination of both) in the rural landscape and examine how agriculture might influence different settlement patterns, and finally, the implications for residence on the land based on the available data. This is an important topic in the debate on ancient Greek farming, because it has implications regarding the economic importance of farming, and may indicate different strata of society farming the land (Forsén 2006, 73–76). For this discussion, nucleated settlements refer to the existence of densely populated sites, ranging from hamlets to cities, while a dispersed settlement is usually typified by a larger number of smaller sites including, but not exclusively limited to, farmsteads (Hansen 2004a, 74).

Nucleated settlements

At the beginning of the twentieth century, the consensus of Greek historians was that cities and villages were the *locus* for settlement (Bolkestein 1958, 21; Pečírka 1973, 115). Nucleated settlements provided spaces for habitation, access to water, and allowed the occupants to take part in the political and economic life of the city. Concerning the development of nucleated centres, research has suggested that at the beginning of the Archaic period a number of dispersed settlements grew into larger villages, which eventually came to dominate an area and amalgamated surrounding villages. In doing so, the core village became a *polis* and incorporated the territories surrounding it into its *chora* through the process of *synoecism* (Burford 1993, 18). Studies on the distribution of *poleis* suggest that, on a very general scale, nucleated settlements were often spaced less than 10 km apart, and the land surrounding the centre would be farmed by those living within the settlement (Burford 1993, 57; Bintliff 2006a, 23–26). Based on the research from the Copenhagen Polis Project, which carried out an analysis of every Greek *polis* recorded, including colonial *poleis*, 'some 60 per cent of all Greek *poleis* had a territory of max. 100 km squared, and close to 80 per cent had a territory of max. 200 km squared ...' (Hansen 2004c, 71; Bintliff 2006a, 25). This would

suggest that second-order sites (villages (κώμη), demes, and hamlets), if any within the territory of the *polis*, would be spaced at 2–4 km intervals making it easy for farmers to commute from the village to their farms (Jameson 1994, 57). Landscape survey has shown that the development and continuity of nucleated settlements are not immune to changes, which may have been caused by internal (social revolution) or external (plague, war, and earthquake) forces. For example in Keos, the surveyors noted that settlement patterns fluctuated between nucleated and dispersed in different periods (Cherry *et al.* 1991, 464–466). Meanwhile in Attica, Lohmann believed that the deme of Atene was made up of a loose cluster of settlements, with no defined centre. Atene appeared to have an economic growth period between the fifth–fourth centuries BC, as evidenced in the presence of numerous rural structures for agricultural processing and habitation, but in the third century BC the territory fell into decline and the farmsteads were eventually abandoned (Lohmann 1992, 56). However, with regards to Attica, the known administrative importance of deme centres for the organisation of citizenship, religious festivals, and other civic duties strongly indicates that despite the agrarian nature of the Atene economy, it did have a (as yet undiscovered) deme centre (Sylvian Fachard pers. comm.).

Social and economic considerations must also be taken into account in the study of settlement patterns. The nature of the landscape, the social organisation of the *polis*, and the size of the *chora,* suggest that in territories of smaller *poleis* it was feasible to live within nucleated centres and commute to a farm to perform daily tasks, or monitor those who were farming for you (Osborne 1987, 57–65; Jameson 1994, 57; Mendoni 1994, 155; Jones 2004, 20). For example, an inscription from the city of Karthaia on the island of Keos describes the physical environment of plots of land. This inscription implies that the territory of the city was quite small because simple physical descriptions were sufficient to identify different parts of the landscape, but also the inscriptions do not reference any human presence in the countryside (Osborne 1987, 71–72). In the case of larger territories such as Attica, the relationship between the first-order *polis* of Athens and second-order demes is well documented (see Whitehead 1986). For the relationship between farms and demes the final report of the recent archaeological survey of the Mazi Plain (MAP), northern Attica, and its environs, including the deme of Oinoe will undoubtedly provide important data on the relationship between second and third order sites (Fachard *et al.* 2015, 178–186). In Laconia, albeit with a distinctly different social system than Attica, a 'hierarchy' of first, second and third order sites are still distinguishable. The *polis* of Sparta acted as the market and civic centre for the *perioikic* towns and villages including Sellasia, Pellana, and Geronthrai (Shipley 1997). These second-order sites were permitted to maintain and farm their own territory while also deferring to Sparta (Catling 2002, 163–196). The current excavations of modern Geraki, identified by the excavators as the ancient *perioikic* town of Geronthrai, have provided further insight into the nature of settlement and activity at second-order settlements. During the Classical-Hellenistic period there is definite evidence of 'urban activity' including houses (with evidence

of weaving and metalwork), streets, a sanctuary, and graves (Crouwel *et al.* 2000, 69; see Crouwel *et al.* 2003 and subsequent years for excavation of the Hellenistic areas). From the example of Geraki, it seems that these smaller towns and villages coexisted with larger *poleis* in a single landscape, and often replicated the types of domestic, cultic, and economic activity as larger cities. It is important to note, however, that the presence of smaller urban centres does not negate the role of farmsteads as domestic centres in the countryside. Indeed there are multiple instances of farmsteads identified in landscape survey to suggest that farmsteads too supported similar functions to urban houses (discussed further in Chapter 3). The reasons for nucleated settlement patterns may be associated with the extent of the territory of a city-state, the nature of the social organisation, and the characteristics of plots farmers used. It is important to note, however, as with the example from Laconia that a variety of different settlement patterns ranging from large urban centres to single farmsteads could coexist in a single region.

Dispersed settlements

Osborne wrote, 'different patterns of exploitation in their turn have different implications for the intensity with which the farming operations are carried on. It seems extremely likely, that, the more numerous the traces of human activity in the landscape, the more intensively that land was exploited.' (1987, 69–70). Dispersed settlements (in our case, farmsteads) are often associated with intensive farming practices (Pečírka 1973, 121; Cherry *et al.* 1991, 463). The continuous farming work involved in intensive agriculture meant that the farmers were employed on the land for large parts of the year, which may make commuting from urban centres impractical. There are practical reasons too for dispersed settlements throughout the landscape: tending valuable crops, guarding supplies and agricultural equipment, and deterring theft and destruction of property. There are instances in the textual sources of farms being raided with property and crops being destroyed (Demosthenes 47; Demosthenes 53). In the instance referred to in Demosthenes 47, neighbours in the countryside witness the assault (47.57 & 47.65). There appears to be certain longevity in activity carried out at rural farmsteads. For instance, a number of ancient texts directly refer to farms with farmers living in dispersed settlements (see Roy 1988; Burford-Cooper, 1977–78). In Demosthenes 53 and 55 the defendant and plaintiff have been neighbours in the countryside for some time:

> Nicostratus, whom you see here in court, men of the jury, was a neighbour of mine in the country, and a man of my own age. We had long known each other, but after my father's death, when I went to live in the country, where I still live, we had much more to do with one another, since we were neighbours and men of the same age. (53.4)

> Before they [plaintiff] undertook this malicious action against me, my mother and theirs were intimate friends and used to visit one another, as was natural, since both lived in the country and were neighbours, and since, furthermore, their husbands had been friends while they lived ... (55.23–24)

Excavated examples of rural sites can shed light on the types of activities, but these examples in some instances are too rare to stand for any general practices (e.g. Jones *et al.* 1973; Adam-Veleni *et al.* 2003). Sites labelled by archaeologists, as farmsteads are ubiquitous in survey and based on this evidence and the texts there is little doubt that there were farmsteads and structures in the *chora* of most *poleis.* However, the presence of structures alone in the landscape does not indicate that the site provided seasonal or full-time residence for those farming the land.

It is worthwhile here to explore the question of residence in the landscape in relation to nucleated and dispersed settlement patterns. The modern division between rural dispersed settlement, on the one hand, and nucleated settlement, on the other, is a misnomer and does not reflect the reality that the ancient Greeks would have known (Hansen 2004a, 77). Rather, instead of attempting to understand the division of settlement between nucleated and dispersed, we should understand a distinction between *chora* and *polis.* This means that the ancient Greek understood the *polis* as the centre of politics and government, and the *chora* as the area for agricultural work. Importantly, it is feasible that the Greeks would not have made a distinction between nucleated and dispersed settlements within the rural context (Hansen 2004a, 77). This in part explains why the textual and archaeological evidence appears so contradictory (Hansen 2004a, 75; Jones 2004, 19ff). The patterns of settlement are very complex and not wholly reliant on the social and agricultural regimes in different areas in the Greek world. Instead, it is highly probable that '... villages and smaller manifestations of human presence co-exist' (Osborne 1987, 68). Similarly, in southern Attica the pattern of settlement in the rural landscape coincides with the farming system employed and the status of those who were working on or owned the farm (Lohmann 1992, 51). Significantly, drawing a distinction between dispersed and nucleated rural settlement does not facilitate an understanding of the variety of farming systems that could be at work in different regions of Greece. It is apparent then that there was a variety of settlement patterns in the countryside of any one *polis.* However, debates about whether 'smaller manifestations' (in our case farmsteads) were occupied dwellings possibly supporting year round activity is still a very contentious issue. In the following chapters, the archaeology of these rural sites and modes of occupation will be explored fully; here it is worthwhile exploring other types of evidence for and against rural domestic activity, before the archaeological evidence is discussed in detail.

In early scholarship, it was suggested that living full-time on the land would be too restrictive and isolating for the citizen farmer (Bolkstein 1958, 21). There are certainly textual sources, which refer to people living within the city and travelling into the countryside. For example, in Lysias 1, Euphiletus travels to the countryside, presumably to farm (although this is not expressly stated) for an undetermined length of time (but long enough to allow his wife to carry on an affair while he is gone):

> Time went on, sirs; I came home unexpectantly from the country, and after dinner the child started crying in a peevish way, as the servant-girl was annoying it on purpose ... (1.11)

When Euphiletus wishes to confront the man who is cuckolding him he tries to gather witnesses, but he finds his neighbours not at home, because they are in the countryside (Lysias 1.23–24). It is correct to say that Euphiletus lived in Athens. This of course does not exclude tenants, slaves, or bailiffs living on the land, which Euphiletus may have farmed. The text suggests that the length of time he is away is however too short for him to carry out the chores on a farm himself.

The complexity of the debate concerning residence on the land is tied up with issues of class, demography, and farming choices, which affect it from region to region, meaning that trends can only be understood in very broad terms (Jones 2004, 19). Within the archaeological discourse, it has also been argued that the nucleated settlements were areas of habitation while the structures in the landscape would have been seasonal shelters either for times of intense farming, or places of storage for farming implements (Mendoni 1994, 150; Osborne 1985b, 125). Moreover, it is not possible to understand the life cycle of a rural site in the landscape in 10, 20, or 30 year spans, simply because the quality and quantity of the material collected from surveys is not adequate for precise dating (Foxhall 2004, 250). Instead, the understanding of sites is based on the chronology of periods rather than decades, which results in an inability to understand the changes that happen in a site over the space of a generation (Foxhall 2000, 490). There is a question, therefore, not only of whether, but also for how long rural sites may have been inhabited. Some textual sources suggest that farming techniques and farmsteads may be passed down within families. The fact that farms were in existence for generations suggests permanency of structures and activity, which may imply long-term residence also. For example, Phainippos inherited his farm from his uncle (Demosthenes 42.21) and Ischomachus was farming in the tradition of his father, too (Xenophon, *Oikonomikos* XX. 22–28):

> On the other hand, to a careful man, who works strenuously at agriculture, no business gives quicker returns than farming. My father taught me that and proved it by his own practice. (Xenophon, *Oikonomikos* XX. 22)

The passage goes on to describe how his father would purchase wild, uncultivated, and neglected land, improve upon it and sell it for a profit. In Demosthenes 55, the defendant is rejecting claims by the plaintiff for destruction of his property due to the diversion of a watercourse. Not only are the plaintiff and defendant neighbours and farmers but also the families have been on the land for some time:

> My father built the wall around this land almost before I was born, ... and my father lived on more than fifteen years longer, and their father as many. In all these years, no one ever came to object or make complaint (and yet of course it often rained then, just as it does now); no one made any opposition at the start, as he would have done, if my father by walling in his land had caused injury to anyone. (55.3–4)

It is certain that areas of the Greek countryside contained structures which archaeology had identified, but it is difficult to assign all sites a domestic function, and especially

as sites for permanent habitation (Osborne 1985b, 126; 1987, 62; 1992a, 22). It is true that the archaeological record for farmsteads is fragmentary and their identification as habitation sites is still in no way secure given the absence of associated written evidence. Furthermore, the study of the evidence from inscriptions shows that textual evidence can be no less ambiguous (Jones 2004, 27–31). For example the lease of the demesmen of Prasiai, records a χωρίον καί οἰκία (*SEG* 21.644; Vanderpool *et al.* 1962, 54–56). In this instance, Osborne comments that, οἰκία does not refer to a residential property because the storage material listed 'is hardly the complement of a normal domestic set-up' and concludes that οἰκία could be understood to mean a storage room or shelter (1985b, 124–125). Jones, for one, counters this argument and stresses that οἰκία in this instance does mean habitation, because the presence of agricultural tools does not preclude that the structure was inhabited (2000, 83). It is clear that textual evidence is open to interpretation and that interpretation is wholly dependent on the scholar's point of view. In some early discussions, for example Pečírka (1973, 118–119), and Hanson (1999, 86–111) comment that it was the lower levels of society that lived in the rural landscape (like the farmer in Menander's *Dyskolos*), while Osborne cites the evidence of large farm estates at Rhenia as examples of farms inhabited by large slave labour forces (1987, 71). The evidence discussed so far in this chapter suggests that the texts are ambiguous and liable to interpretation as far as living in the countryside is concerned. Furthermore, the texts, limited though they are, suggest that the countryside was farmed by a percentage of the population who travelled between the city and the countryside, while others farmed from sites in the landscape, which may have also served as a place of residence. Even though the majority of the population lived within the city, the urban population was mostly made up of farmers; this suggests farmers may have lived within the city and commuted to their farms, while others settled in the countryside (Hansen 2004b, 17; Jones 2004, 20).

The archaeological evidence suggests that some sites supported permanent habitation because of the quantity, types, and quality of ceramic material found (Bintliff 2012, 270; see Lohmann 1992; Pettegrew 2001). Furthermore, the ceramic evidence from small rural sites does have a 'signature', which is uniform throughout the different survey areas and may indicate activity and occupation on a site (Pettegrew 2001, 203–205). This topic of the identification of farm sites based on the ceramic material is discussed further in Chapter 3. Here, it is enough to note that the majority of ceramic material found highlights that activity on these sites included the preparation, consumption, and storage of food. Additional material found, including cult material, loom weights, and lamps, lend further support that these sites could support full-time habitation (Bintliff 2012, 270). Despite the presence of this material, and the limited textual evidence, which implies that at least some people lived full-time on the land, there is still remaining scepticism as to the extent of permanent habitation in dispersed settlements during the Classical-Hellenistic period.

Regarding the number of people living in the countryside versus those living in the city, archaeological landscape surveys have attempted to address the question by

providing tentative estimates (Hansen 2004b, 11–16). For Keos the surveyors estimated that at least 75% of the population lived in the city (Cherry *et al.* 1991, 236–237; Hansen 2004b, 11). In the case of the Akte peninsula survey, it was estimated that only one third of the population lived in the countryside (Jameson *et al.* 1994, 18; Hansen 2004b, 12). A similar figure was returned for the survey in Methana, where the surveyors recorded that the majority of the population lived within the urban centre (Gill *et al.* 1997, 65–67; Hansen 2004b, 13). In Boeotia, the proposed ratio between urban and rural population was thought to be 2:1 or even as high as 4:1 depending on the overall population estimate (Bintliff 1997, 235; Hansen 2004b, 13). Bearing in mind of course that the territories of these *poleis* differ in size, these very tentative figures suggest that different territories had somewhat similar divisions in their demography, with the majority of the population favouring the urban environment. However, these figures cannot be taken as definitive proof, as recent research into the demography of Eretria indicates that the majority of the population hailed from rural demes (Fachard 2012, 111–112).

Intensive farming practices are inherently connected to dispersed settlement and increased population. An identifiable pattern of increased site numbers in several surveys may relate to increased population levels and issues concerning 'land hunger'. For example, the surveyors of the Asea valley found that 'high population pressure probably forced people to farm marginal lands, thus leading to the establishment of isolated farmsteads' (Forsén and Forsén 2003, 266). It is important, therefore, to recognize that economic pressures connected to population growth for farmers, may have resulted in the need to farm more intensively on smaller plots. These plots could have fulfilled an additional role as areas for habitation. To conclude, it is likely that there were both nucleated and dispersed settlement patterns throughout mainland Greece connected to farming, inhabited either permanently or temporarily, and insisting on a divide between these two models of settlement pattern detracts from our understanding of other important topics regarding Greek farming. I will return to this topic again in relation to the archaeological data in Chapter 3.

Who was farming the land?

The fact that farmers were engaged in agriculture while inhabiting both urban and rural settlements comes as no surprise, since neither setting is mutually exclusive for farming. Scholars, including Foxhall (2007, 36–37), have argued that there were several different types of farmers working the land, ranging on the spectrum from the wealthy to the subsistence farmer, but that the archaeological and textual sources are not sufficient to fully elucidate this. The noun γεωργός is a general term for a farmer and farming, but it does not distinguish social status like other words that are discussed below (Isager and Skydsgaard 1995, 153). There are textual examples of a member of the elite, freemen, and slaves being termed a γεωργός (Xenophon, *Oikonomikos* III.5 & III.10; Jameson 1977, 133; Lewis 1959). The term could simply

mean 'cultivator of the land' and would not provide an insight into the social status of those farming. The aim of this section is to attempt to flesh out the spectrum of the different types of farmers more fully, and present a summary of those who could be working the land.

The farmer's bailiff

The upper classes are really the only class in Greek society that we can identify in the sources (Foxhall 2007, 32–33). There is no doubt that the majority of textual evidence on farming does refer to the wealthy, for instance the *poletai* inscriptions record the contents of farms from wealthy Athenian men including Alcibiades. Unfortunately, archaeology is not very helpful in identifying the classes of the persons working the land, those who supervised, or those who wielded the hoe or drove the plough. Instead, it provides us with the evidence for agricultural installations, tools, rural structures, and sites, which indicate that farming activity must have taken place there. The role of the researcher then is to try to piece together the textual evidence in an attempt to identify which classes of society were involved in working the land. This is no easy task, and we should not force artificial dichotomies between the wealthy farmer and the peasant farmer (Foxhall 2007, 36). In Athens, the wealthy consisted of propertied citizen men who were active in the political life of the city. Xenophon's idealised fictional character of Ischomachus portrays an example of a wealthy Athenian landowner/farmer. Although, this portrayal may not reflect the reality of farming in the Athenian countryside, it might provide some insight into how farming was organised for the upper classes. In the text, Ischomachus owns at least one farm in the countryside, which he visits daily to monitor progress and talk with his farm bailiff (ἐπίτροπος):

> ... I keep bailiffs on my farms. (XII. 2)
>
> If there is nothing pressing to be done in town, my servant leads my horse to the farm, and I make my walk by going to it on foot, with more benefit, perhaps, Socrates, than if I took a turn in the arcade. When I reach the farm, I may find planting, clearing, sowing, or harvesting in progress. I superintend all the details of the work, and make any improvements in method that I can suggest. (XI. 15–16)

For Ischomachus, having a farm bailiff meant that he was able to carry out activities in the *agora* such as buying, selling, and bartering. In reading the text, it is clear that Xenophon wishes to portray farming as an integral part of being an upper-class citizen, and Ischomachus shows great knowledge of various farming practices. However, it is also clear from the text that Ischomachus is not the one actually carrying out the farm labour, but by employing a bailiff and slaves on his farm he is free to carry out his other pursuits (*Oikonomikos* XIIff; Burford 1993, 171–177). Ischomachus, therefore, farmed the land by extension through a bailiff (ἐπίτροπος), who could be either a slave himself or a freeman. In the case of slave bailiffs, they could be trained either by the owner or, alternatively, one could purchase an already

trained bailiff. An inscription (of the sale of Adeimantos' possessions from the *poletai*) records the sale of Aristomachus as a bailiff attached to a farm in Thasos (*IG* I^3 426.44; Foxhall 2007, 40). Poorer farmers who had hired themselves out (Plato, *Republic* 2.371 d–e) could perform the role of farm bailiff. The bailiff was allotted control of the day-to-day running of the farm. The epigraphic evidence from the large temple estates in Delos and Rhenia indicates that tenants employed slave labour forces to work the land and used bailiffs to manage their estates (Osborne 1989, 303; see for other slave run estates Jameson 1992). The role of the farm bailiff then was an important one; it also appears to have been a trusted role. Ischomachus encourages Socrates to take the bailiff into his confidence so that he shares in the good times and bad times; this encourages the bailiff to act with the family's best interest in mind (*Oikonomikos* Xff). Aside from managing the slave and farm, Foxhall and Forbes suggest, that bailiffs may have had an important role in the selling off of agricultural produce during market time (1996, 80).

It is more than likely that these people maintained a continuous presence on the land to monitor the slaves or farm labourers under their control, unlike their absentee owner/employer. A calendar inscription (*SEG* 36.137) found at the Cliff Tower listed the months of the year, and at the end of this was written a later graffito 'Αν [..]σώρος ἐπίτροπος' (Langdon and Watrous 1977, 168–173). This is the only attested inscription referring to an ἐπίτροπος in Attica (Carlsen 2002, 120). Relating to this site, further epigraphic evidence found during excavation of the Princess Tower, one kilometre south of the Cliff Tower, indicates that both sites were owned by the same family, which has lead Carlsen to conclude that the primary residence for the family may have been the Princess tower, while an ἐπίτροπος under their employ/ownership managed the Cliff Tower (2002, 120).

Slaves farming the land

Bailiffs would not be working the land on their own, and in the case of large estates, it is safe to assume that they were in charge of a number of slaves who worked the land under their management (Burford 1993, 172–177). For Jameson, the issue of slavery and the intensification of agriculture are intertwined (see Jameson 1977; Jameson 1992; 1994). The intensive system of farming calls for a larger number of people to carry out the agricultural labour because of the nature of the farming system. But slaves, and the use of slave labour was not limited to large estates, slave labour may also have been used on smaller farms too. There are textual sources, which suggest one, or two slaves could be used to supplement the labour provided by the farmer and his extended family, for instance, in Menander's *Dyskolos*.

Morris and Papadopoulos (2005) have attempted to make connections between the presence of towers located on agriculturally viable land, and the presence of a slave workforce farming the land. The central point to their argument is that the construction of towers facilitated the secure storage of agricultural goods and slaves during the night by positioning large metal grates over the doorways, for example

at Palaiopyrgos, Poros (see plan, Morris and Papadopoulos 2005, 194). During the day time the tower could then be used as a lookout for the farm bailiff to ensure the slaves were carrying out their duties, watch out for predators, and enemy attack (see Chapter 3) (Morris and Papadopoulos 2005, 209).

Evidence from manumission inscriptions suggests that farm slaves, like bailiffs, could become skilled workers (Jameson 1977, 133–134). Inscriptions *IG* II^2 1554–59 are a series of manumission lists dating from the fourth century BC. Eighty-five professions can be made out on the list, including 11 γεωργός (farmer) and ἀμπελουργός (vine dresser) (Jameson 1977, 133). Not only do these inscriptions suggest that there were skilled agricultural slaves, but it also suggests that these skills could provide them with a livelihood after they were freed. For example, Alcias, a freeman of Antisthenes, rented the land from the defendant in Lysias 7.10–11. Slaves were ubiquitous in the ancient Greek world and the evidence from sources suggests that their role in agriculture was no exception. The epigraphic evidence from Delos and the evidence of slaves listed on the *poletai* records indicate that both skilled and unskilled slaves could be found on wealthy estates. Furthermore, slave labour could also be used on farms of 'hoplite' or yeoman farmers.

Hoplite/yeoman farmer

This brings the discussion to perhaps the most challenging class of farmer to analyse, the hoplite or yeoman farmer. There are various theoretical models, which describe and explain this 'middle class' of farmer. For Hanson, the yeoman farmer is a cause and a result of the beginning of the classical *polis* (1999, 205). Accordingly, farmers owned equal plots of land and resided in farmsteads in the countryside, carrying out intensive farming practices to support themselves and their family (Hanson 1999, 86–111), while the wealthy Athenian landowners with large farms were relatively rare in comparison (Hanson 1999, 186). For Foxhall, this theory is too problematic, and she concludes that Hanson's arguments are based on his own experiences farming in modern America (2007, 29). Despite some idealist tendencies in Hanson's writing, it is plausible nonetheless, to consider that yeoman farmers may well have made up a class of people among those working the land. For Morris, Athenian democracy formed the founding principle of a 'middling ideology' in which the best Athenian man is a moderate one with enough to survive (2000, 111–113; cf. Foxhall 2007, 30). Morris uses a statistical analysis of Osborne's (1992a) and Foxhall's (1992) work on demography and land ownership in Athens to argue that land ownership was more egalitarian than Foxhall's and Osborne's figures would suggest (Morris 2000, 140–141; cf. Foxhall 2007, 31). van Wees' recent discussion on Archaic property classes and his comparison to the later Classical period is worth noting too, he explains that in 322 BC, the Athenian male population consisted of 5000 leisure-class citizens (which incorporates Solon's first three property classes), 4000 independent working-class citizens (yeoman 'middling' farmers), and 20,000 independent labourers (2013, 238–239 & Fn. 40, 247; see Van Wees 2001, 56–59).

These figures help illustrate, for Athens at least, that this class of farmer made up a cohort of the Athenian population, and in all likelihood owned and/or inherited agricultural land. Therefore, it is unrealistic to imagine either of the two extreme scenarios, and instead we must conceive of the landscape as made up of large and small farms consisting of contiguous and fragmented plots, which reflect the socio-economic circumstances of the farmer.

It is indisputable that this is difficult water to navigate because of problems with modern ideologies employed in ancient contexts. But the question remains as to whether we can identify the hoplite or the middling farmer. For Jameson, 'it seems more likely that the bulk of Classical farmers were in the hoplite class, had slaves, and lived above subsistence,' (1992, 144–145). But, there is no consensus because it is generally agreed that the only image we have of the ancient Greek world, and particularly Athens, is a product of the elite.

The only light that archaeology can shed on the subject is that many of the sites with built archaeological remains may be connected to wealth. For example, towers and towerhouses, like that of Komboloi, may suggest the wealth of their owner/farmer, given the size of the structure and the scale of the agricultural production (Adam-Veleni *et al.* 2003, 65). In survey, too, there are traces in sites, which may suggest a level of wealth. For example, Akte Installation 1 (Appendix Table 7) in the Akte peninsula had evidence for painted plaster, pilasters, and an olive press (Jameson *et al.* 1994, 434). At the other end of the spectrum, does archaeology, lend support to Morris' argument of the *metrios* farmer who would live a moderate life, and can we identify this moderation in the construction of the farm site? The site at Palio Pithari in Karystos is a simple structure with rooms opening onto a courtyard, the ceramic material uncovered reflects activity that was focused on the preparation and consumption of food rather than any *sympotic* activity (the characteristics of ceramic assemblages from farmsteads is discussed further in Chapter 3) (Keller and Wallace 1988, 151). The excavators suggest that this farm may have been part of an Athenian *cleruchy* and reflect a settlement on the land by Athenian colonists after 470 BC. The population that made up Athenian *cleruchies* were of the hoplite class, often identified as the *metrios* citizen, and as Graham comments, in the case of Lesbos, that these *cleruchies* were made up of allotted men who would colonise the land of expelled peoples and while working the land serve as a garrison (1999, 181). It is feasible that a similar situation is happening in Karystos, this along with the modest size of the farm suggests that these were farms of middling status. In texts the word αὐτουργος may refer to the class of yeoman/citizen farmer; he is someone who farms the land himself, possibly with the help of a few slaves (Burford 1993, 168; Shorey 1928, 346). In the idealised society of Plato's *Republic,* this class of men form the largest part of society:

> And the third class, composing the 'people,' would comprise all quiet cultivators (αὐτουργοί) of their own farms who possess little property. This is the largest and most potent group in a democracy when it meets in assembly. (8.565a)

In the *Oikonomikos* the αὐτουργοί body is hardened by labour (V.3–4), and in Euripides' *Orestes* they are the preserve of the land (918–20). An important example of this type of farmer comes from Menander's *Dyskolos* where the αὐτουργος works the land himself (Burford 1993, 170):

> [...] he thought your life was that of a poor farmer (αὐτουργὸν). (369–370)

In the *Dyskolos,* the farmer works the land with his slave (371–377). This suggests that even 'poor' farmers used slaves as additional labour on their land. The textual sources, limited as they are, indicate that an αὐτουργος, who we can identify as the hoplite/yeoman class was a farmer who farmed the land himself, sometimes with help from family, slaves or hired hands.

Independent and dependent labourer

On the use of hired labour, the textual sources are even sparser. Farmers may have employed help from members of their family, particularly during times of intensive labour (Scheidel 1995, 210). In Athens, citizens who had fallen on hard times may also hire themselves out as labourers, as is the case for Socrates' friend Eutheros (Xenophon *Memorabilia* 2.8). It seems however, that this option, at least for upper-class members of Athenian society, was akin to enslaving oneself, since when Socrates advises that Eutheros could become a bailiff in his old age, Eutheros replies caustically 'I do not wish to enslave myself, Socrates' (Xenophon *Memorabilia* 2.8.3–4). In the text, this comment leads to a philosophical discussion about the merits of working for others. Consequently, it is unclear how accurately Eutheros' views reflect the opinions of those, who through economic circumstances became independent labourers.

There are limited known examples of agricultural hired labourers in the texts; however, what does exist suggests that the practice of hiring labour, particularly during times of peak agricultural work was common. Staying in Attica, a Θεριστής (a reaper or harvester) can be used to describe the used of hired labour (Demosthenes 18.51; Xenophon, *Hiero* 6.10; Jameson 1992, 143). Equally, in Aristophanes' *Wasps* Philocleon is compared to '... olive pickers (ἐλαιολόγος); you follow him who pays' (712). Similarly, in Theophrastus' fourth century BC *Characters,* a series of grotesque, moralising character-sketches, the author caricatures the boorishness of men from the country: the 'country-dweller' '(ἀγροικίας) drinks a gruel (drunk by the poorer classes) before he travels to the assembly [and ...] he describes to hired labourers (ἐργάζομαι) in the field all the proceedings of the city assembly.' In Attica, therefore, it seems that independent labourers could hire themselves out to supplement their income, and based on the limited textual evidence it was solely confined to times of peak agricultural work (De Ste. Croix 1981, 505; Scheidel 1990, 592–593). In contrast, whereas in Attica is seems, somewhat vulgar, to hire oneself out for labour, in Boeotia according to an analysis of land ownership and demography suggests 'the poorer half of the population could only have survived economically through working on the estates of the upper half of society' (Bintliff 2006b, 328; see Bintliff 1997).

The final class of person who could be farming the land were dependent labourers. These were not slaves in the regular sense but instead workers who were tied to plots of land and compelled to work them for those who controlled the territory (Burford 1993, 193–207). In occupied territories throughout the Greek world, the land was mostly worked by dependent labourer labour. This was the case in Sparta, Crete, and Thessaly (Jameson 1992, 136–139). Sparta has the most famous example of dependent labourer labour in the form of helots working Spartiate land in Laconia and Messenia. Here farming was centred on farm estates, which were worked by helots who lived within nucleated villages and communities (Jameson 1992, 137–138; Alcock 2002, 192–193). The dependent labourer system was inefficient for smaller farms and is usually indicative of estates larger than 120 *plethra* (Jameson 1992, 137). Perhaps proof of this system comes from the PRAP survey, which studied the landscape of Messenia (Davis *et al.* 1998). Unlike other areas in Greece, the surveyors found no dispersed rural farmsteads there. This trend in settlement patterns, they believe, reflects the different system of labour in this part of Greece (Alcock 2002, 197). Furthermore, Hodkinson argues that the Spartiate and helot population took part in a system of sharecropping (1992, 131–133). This had two benefits for the Spartan male citizen population. Firstly, employing dependent labourer labour allowed them to engage in their militaristic lifestyle, and secondly, by having a system of share cropping, the risk involved in farming was lessened (Alcock 2002, 197).

In conclusion, it seems that there were many different classes of people working the land, and that the status of 'the farmer' was not as clear-cut as one may think. The textual evidence, at least, suggests that different strata of society farmed the land, and that the nature of the farmer's involvement in farming depended on his status in society and the socio-political conditions prevailing in the area.

Ownership of the land

Issues regarding demography and wealth are important topics in this debate regarding land ownership. In very broad terms land could be publicly or privately owned. Public land owned by the state, deme, cult etc. could be leased to tenants for income. These leases provide the majority of epigraphical information concerning tenancies in ancient Greece. Land could also be owned privately, and either farmed by the owner or by someone under his control. Alternatively, it could be rented out to be farmed by a tenant.

Public land

In general, the evidence from leases of public land indicates that activity in the countryside was heavily regulated by the governing authorities and these leases provide valuable information on the spectrum of agricultural activity, which could be proscribed. There is a diverse, and often overwhelming, quantity of leases describing the renting out of public and sacred land. In Athens and Attica, for example, the five

different corporate bodies who could issue a lease were the state, the state acting on behalf of another party, a cult, a deme, and a phratry (Walbank 1991, 152). The motives for corporate bodies to lease land included receiving a secure income, of course, it was also possible to lease land via committees (μέρη), in the case of the examples discussed above, upper-class citizens, and also family members, which may have been financially beneficial for the parties involved, but also related to longstanding social relationships. Although leases are a tremendous source of information for several interrelated topics, of interest here, is how leases tell us about the types of structures on the land and care of the property. Pernin's (2014) recent analysis of leases throughout the Greek world has helped shed light on the diverse nature of lease agreements, and the variety of structures on the land. For example, the lease from the deme of Piraeus, describes a plot of land near Halmyris which includes a house 'in good condition' (11, 1.22–23), and at Poiessa, Keos, the lessee will receive a 'house in a good state, with a roof' (128, 1.11–13). Equally, the tenant on a lease from Chios is obliged to build a structure valued at 16 *minae* (130. 1, 43–44). Similarly, at Amos, the tenant is required to build at least three buildings, the minimum dimensions of which are stipulated on the lease (225A 1.24–27; Pernin 2014). Aside from structures on the land, leases may also stipulate the nature of produce to be planted, and the care of the land, as in the lease of the sanctuary of Egretes in 306/5 BC, which stipulates that the tenant should care for the sanctuary and trees, and if any of them are lost he is to replace them (*IG* II^2 2499). Leases therefore, are a valuable resource in understanding the nature of plots and the structures that can be found on them. On the actual purchasing of leases, we have already seen at Thespiai how leases for land could be passed down through families, perhaps after the death of the current tenant (Pernin 2004, 224). This evidence suggests then that leased plots of land could remain within families, and provide not only a source of income for the landlord, but also a livelihood for those working the land. In contrast, however, the leased estates of Delos appear to be leased by wealthy individuals either as a source of additional income, or as prestigious real estate. Regarding the leasing process it seems as though a public auction was held where leases were conferred to 'whoever offered the largest amount of money' (*SEG* XXVIII 103, II. 23–4; Papazarkadas 2011, 115). The fact that leases were offered at auction strongly indicates, in the case of Athens at least, that the leasing of land remained the domain of the upper classes (Papazarkadas 2011, 320–323; Osborne 1989, 290–291). This suggests that only the wealthy could attain leases, and as a result, leasing of public land would not have been a viable option for poorer farmers who wanted to rent farmland.

Private land ownership

Xenophon's Ischomachus is in the habit of buying land, improving it and selling it on, in the manner of his father before him (Xenophon, *Oikonomikos* XX. 22–28). The people who buy the land could choose to either farm it themselves or even rent it out. An intriguing example of this comes from Lysias 7. In this case, the defendant is

arguing against charges of impiety brought against him for removing a sacred olive tree from his property. The speaker's defence rests on the argument that the stump was removed before he owned the property, and the quote below briefly summarises the farms past owners:

> This plot of ground belonged to Peisander; but when his property was confiscated, Apollodorus of Megara had it as a gift from the people and cultivated it for some time, until, shortly before the Thirty, Anticles bought it from him and let it out. I bought it from Anticles when peace had been made. (7.4)

This quote brings into sharp focus the possibilities for the changing of land ownership and that the land could be confiscated and bequeathed by the state. The land could then be cultivated by the owner either by himself or through a third party, and then sold and rented out. The duration of rental periods stipulated in public leases appears to have ranged from anywhere from ten to sixty years. However, in the case of private leases it appears that rental duration could be much shorter. Again, Lysias 7 highlights the various changes of tenants and land use:

> When I took over the plot, after an interval of five days I let it out to Callistratus, [...]: he cultivated it for two years, and had taken over no olive-tree, either private or sacred, nor any olive stump. In the third year it was worked by Demetrius here for a twelvemonth, in the fourth I let it to Alcias, a freedman of Antisthenes, who is dead. After that Proteas too hired it in the same state during three years, ... since the termination of that time I have cultivated it myself. (7.9–11)

This passage indicates that tenancies in private leases could be much more fluid and open to change than in public leases. It also appears, although not explicitly stated, that the tenants of the land were free to farm the land as they pleased. The defendant now farms the land himself, but it is unclear whether he is actually doing the work or employs someone to do it. Furthermore, this is not the only plot of land he owns and he remarks that he has sacred olive trees on his other plots of land:

> For you understand that in the plain there are many sacred olives and burnt stumps on my other plots which, had I so desired, it would have been much safer to clear away or cut down ... (7. 24)

It is not clear from this passage, however, if he is engaged in farming these plots himself and they constitute one farm, or if they are all rented out to different farmers. If the second were true, the defendant would have been more of a landlord than a farmer. It is important to remember that the defendant in this case would be trying to downplay his wealth and involvement in any wrongdoings, but these passages do provide valuable insight into how land could be bought, rented, and sold.

Partible inheritance was common in mainland Greece and is one of the primary causes for land fragmentation. In situations when a wealthy individual dies, the division of household goods and property can become a cause for hostility. For example, the estate of Hagnias, who died in the first half of the fourth century BC without any heirs, the estate was then fought over by the extended family. The story

is preserved in two surviving speeches, delivered in two separate trials, by Isaeus (11) and Demosthenes (43). The estate was an extensive one and the farm supported over 1000 olive trees (Demosthenes 43.69). In terms of smaller farms in a speech composed for a trial in the 320s BC by Hypereides, entitled *Against Athenogenes,* the speaker stresses that he has only newly come into the inheritance of a small farm (3.26). Finally, it is important here to mention briefly another issue regarding land ownership, particularly in Athens. For Foxhall (1992, 157) and Osborne (1992a, 24) approximately 7.5–9% of the population owned 30–50% of the cultivable land. Although these figures have been challenged by Morris (2001, 140), with a rebuttal by Foxhall (2007, 30–31), it is important to understand that the wealthy owned a considerable proportion of the land. This notion goes against Hanson's egalitarian division of plots for the yeoman farmer (1999, 187). Foxhall does stress that it is probable that a whole spectrum of society did own land, but the evidence that comes down to us in modern scholarship concerns the land ownership of the wealthy classes (2007, 36). Foxhall, therefore, warns that we should not use the information available about the wealthy as generalities for all classes of farmers. Instead, we should understand that there was a variety of land holdings, which we cannot understand because of the nature of the textual evidence available (Foxhall 1992, 156; see Foxhall 2002b).

Conclusion

Two questions were posed at the beginning of this chapter concerning how representative the texts are of actual farming practices, and the level of standardisation in farming practices. The investigation of the archaeological and textual evidence for farming in ancient Greece, and particularly that for the various farming systems employed, nature of settlement distribution, status of the farmer, and land ownership has helped illustrate the complex nature of ancient Greek agriculture. The multiple types of farming practices mentioned in texts attest to the various choices available to the farmer about when, how, and where to farm. The conclusions reached here illustrate that the texts *are* representative of farming systems, *but* that they are only representative of the systems unique to the context. Therefore, caution is called for when trying to assign farming activity across territories based solely on this evidence. Yes, in certain instances there will be strong evidence that suggests certain territories favoured a particular type of farming system (extensive in Arcadia), settlement pattern (mixed in Karystos), and class of farmer (slave farmed estate in Delos). But this evidence needs to be used prudently beyond its original context. Despite these issues, and with a careful contextual reading of the texts, we can answer the questions posed at the beginning of Chapter 2. Regarding how representative these texts are to actual farming practices, we have to reframe the question, and ask, how is the author's experience of farming representative of farming practices more generally? Considering the agrarian nature of ancient Greece, as I have already argued, the majority of people to some degree were involved in farming. The authors like Hesiod,

Xenophon, and Theophrastus, therefore, may have applied their own knowledge of farming to their textual narratives. This knowledge may have been acquired actually farming themselves, such as Hesiod, or through inquiry, like Theophrastus. Therefore, these authors help us understand in very general terms what it was like for a broadly defined citizen farmer (Hesiod), and for an elite farmer (Xenophon), to engage in farming. Thus, we can say that these texts are representative of farming practices understood by these authors, but we must be aware of the context of these works when citing them as representative of farming practices for all farmers, in different regions, working under a variety of socio-economic conditions.

Finally, two key points emerge from this discussion, firstly, there was a great amount of variation in the types of farming activity happening within different regions throughout the Greek world, and that these variations were dependant on the status of the farmer, the character of the land farmed, and the purpose of the farming activity whether for subsistence or economic gain. Secondly, it is clear that modern scholarship has difficulty in reaching consensus about a number of important points concerning ancient agricultural practices, particularly the nature of farming systems, and habitation on the land. Nevertheless, despite the often fragmented and problematic textual and archaeological evidence, it becomes clear that there is a great amount of variety in the agricultural activity, settlement, and occupation in the landscape. In addition to presenting the available textual evidence for farming in ancient Greece, this chapter most importantly provides a context for the following discussion on the archaeology of farmsteads in Chapter 3. In the next chapter the archaeological remains for farmsteads will be explored in an attempt to understand how this variation is reflected in the archaeology and how, used in conjunction with the textual evidence, it can leave us with greater insight into their role in agriculture.

Chapter 3

The archaeology of farmsteads and their agricultural role

Introduction

The previous two chapters have highlighted the fact that recent research has shed much light in support of the existence of farmsteads and the range of farming practices. Building on this, the current chapter examines the nature of archaeological evidence for such sites with two connected aims. First, to formulate criteria, which according to past and current research aid the identification of farmsteads in archaeology. Secondly, considering these criteria, investigate the types of farmsteads identified as having agricultural functions: towers/towerhouses, simple rural sites, and agricultural installations. Researchers in the past have attempted to categorise these agricultural sites; for instance, Mendoni identified three types of rural site on Keos, which had a 'clearly agrarian character' (1994, 156):

1. Large farmsteads with round or square towers and a complex of additional buildings, supplementary constructions, storerooms, oil presses, threshing floors, and cisterns.
2. Smaller farms with a basic dwelling space consisting of two or more rooms and, in some cases, a courtyard.
3. Small establishments, secondary residences, with very simple buildings of cheap construction, no architectural remains and only a few sherds.

This typology represents the three broad classes of rural sites found throughout mainland Greece (both in survey and excavation), which are typically identified archaeologically as farms. The problems regarding site classification, particularly farmsteads, in survey has been discussed at length elsewhere (Stewart 2013, 7–18). Briefly, in Chapter 1, I touched on some of the issues around using the data from landscape survey, particularly the comparability of different surveys, and that it is indeed possible for this research to compare the various surveys because of the nature of the comparison. Here however, it is worthwhile to touch on the topic of site classification in survey. As will become clear in this chapter, the modern classification of 'farmstead', as a means to describe the ceramic material collected from survey,

is not uniform throughout different survey regions. Consistency in classification is particularly important when studying farmsteads, as these are the most 'itinerant' site types in the Greek countryside moving across landscapes and survey areas, and between and within periods (Steward 2013, 14). As discussed further below, however, the problem with current typologies, particularly the term 'farmstead', is that the term falls short in helping us understand the full range of site types and the variety of functions they might have had. Of course, a classificatory schema is required in order for us to understand what is happening in any one landscape, and the level of wealth (social/economic) is perhaps the easiest classification to assign a site. Therefore, site classification is often hierarchical and abstracted to represent the 'wealth' (economic/social) of the farmstead based on its proportional size and ceramic component. Farmsteads, then, can often be further classified as 'hamlets', 'villas', and 'single farmsteads' (Stewart 2014, 127, 129). This classification does go some way to draw conclusions about what is happening socially in any one landscape, but importantly, this hierarchical classification is not uniform throughout the different survey areas. For example, no agricultural towers/towerhouses, and only one possible installation, were found within the intensively surveyed area of the Eurotas valley, Laconia. Their sites were classified as farmsteads primarily due to their location in the countryside, and then subdivided into 'villas', 'hamlets', and 'single-farmsteads' based on their size and ceramic wealth. In the case of Laconia, therefore, the site typology is similar to Mendoni's classification, and differs from the role-based typology proposed in the current chapter.

The typology presented here aims at understanding the role of farmsteads in agricultural activity, and in doing so identify different sites for the occupation of farmers, processing of goods, and storage of supplies, which together form the components to make agriculture function as an industry in each particular region. Past attempts at creating typologies for farmsteads, either have been too focused on one type of rural site (towers), or not broad enough, for example Mendoni's typology is specific to Keos and identifies installations (lever presses, threshing floors, *trapeta*) as only associated with towers. In the surveys discussed here, the archaeological evidence indicates that installations can be located within towers, but also in association with other structures, as well as in isolation in the countryside. Therefore, here, installations are considered a separate site class. In addition, Mendoni's second and third types of farm classes are consolidated into the site class termed here 'simple rural sites'. The aim of this is not to order farmsteads hierarchically, but rather to develop a role-based typology to examine tower complexes, installations, and simple rural sites as forming a network of farmsteads associated with farming within specific regions. In regards to the regions under discussion here, the majority of the evidence is drawn from the landscape surveys of the Akte peninsula (Fig. 3.1), Methana peninsula (Fig. 3.2), Atene (Fig. 3.3), and Eurotas Valley, Laconia (Fig. 3.4). Appendix 1 is a catalogue of the sites from these survey areas and will be used throughout this chapter. The majority of our data for farmsteads comes from landscape survey, and my aim in using several

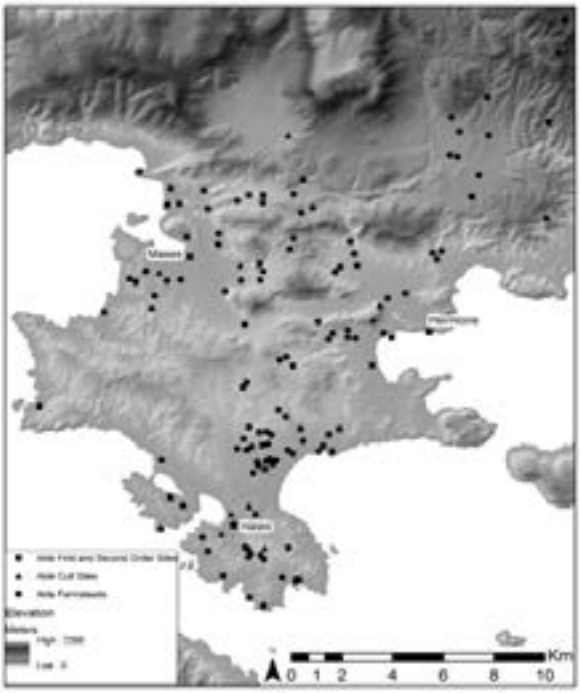


Fig. 3.1: Elevation map of the Akte peninsula with first, second, and third order sites.



Fig. 3.2: Elevation map of the Methana peninsula, with first, second, and third order sites.

surveys in the following discussion is to highlight the similarities and differences of the physical setting, ceramic assemblages, and evidence of domestic/agricultural activity, which will then help in the creation of robust and definitive criteria for the identification of farmsteads.

Criteria for the identification of a farmstead

There is a need for new, specific criteria constructed from the accumulated findings of previous archaeological research. It is irrefutable, based on the archaeological and textual evidence already discussed, that people worked in, moved through, and lived in the countryside. Therefore, the development and application of criteria for farmsteads helps us to reconstruct how farmers used rural sites for agricultural industry. Firstly, criteria help distinguish farms and agricultural installations from other site types in the countryside, such as those associated with military defence, quarrying, and mining. Secondly, the criteria are based on the identification of rural farms in past research, as reviewed in Chapter 1, therefore these criteria help to refine the different types of farmsteads, and helps us understand how these sites facilitated agricultural industry.

In past research, certain rural structure types began to be associated with farming and farmsteads, namely towerhouses and tower complexes (e.g. Young 1956; Munn 1983, 15–94). In the first instance, farms, particularly tower complexes, were identifiable based on poor defensive locations on low slopes, with limited visibility or overlooked by ridges and peaks (Rousset 1999, 60–65; Lord 1938). Eliot, too, identifies farms, for example the Vari house, by their location (1962, 44). With the advent of pedestrian landscape survey, sites other than towers, were identified as farms by their small size, domestic ceramic material and evidence of agricultural installations (Bintliff *et al.* 2007, 39; Pettegrew 2001, 192). Descriptions of what an ancient farm might look like are sparse in texts, but the plaintiff's farm in Demosthenes 47, which describes the raid carried out by Euergos and Mnesiboulos, provides important information about one type of farm:

> They [the plaintiff's family] were lunching in the court (αὐλῇ) when these men burst in and found them there and began to seize the furniture. The rest of the female slaves (they were in a tower room where they live), when they heard the tumult, closed the door leading to the tower (πύργῳ), so the men did not get in there; but they carried off the furniture from the rest of the house (οἰκίας) ... (47.56)

We can argue that a structure type with these components of a house (οἰκία), tower (πὐργος), and courtyard (αὐλῆ) is a farmstead when it is in a rural setting. Equally, there are examples in Attica, and elsewhere, of such tower complexes within urban settings, for instance at Thorikos in Insula 3, the archaeological investigation of the site revealed that the tower served as residential storage (Jones 1975, 120; Mussche 1974; Spitaels 1978; Travlos 1988). Therefore, these tower complexes are not unique to either urban or rural environments; however, despite the similarities in the roles of urban and rural towers, the focus of this study will be on how rural tower complexes

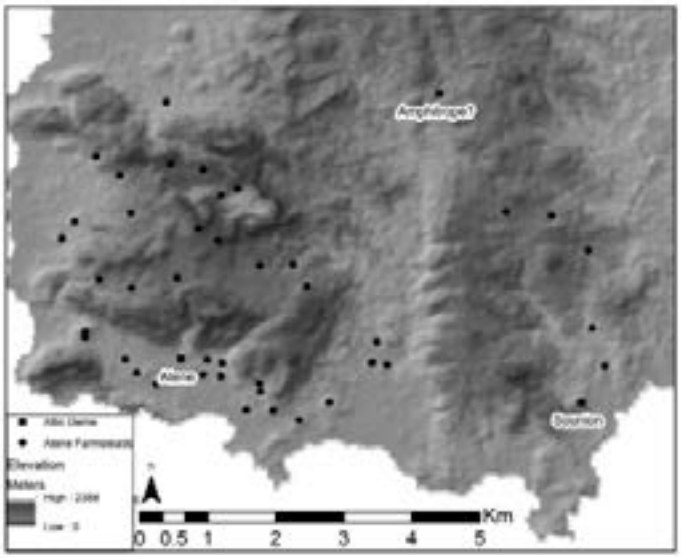


Fig. 3.3: Elevation map of Atene, Attica, with second and third order sites, and Sounion towers.

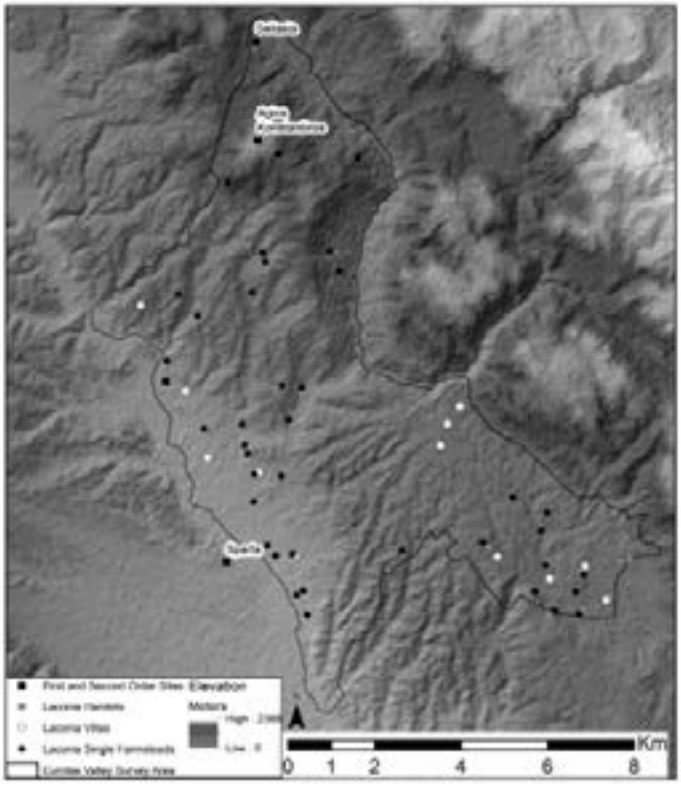


Fig. 3.4: Elevation map of the Eurotas valley, Laconia, with first, second, and third order sites.

acted as farmsteads. Returning to the passage above, it suggests two things: a tower can be a stand-alone structure, and the tower provided security, protection, and storage space for the owner. Is it possible then to identify such a site type in the archaeological record? Perhaps the most famous 'οἰκία, πύργος, and αὐλῆ' farmstead is the Vari house, and such further similar sites have also been identified at Sounion, Delos and Chersonesos, all of which have evidence for agricultural activity (Young 1956, 138; Saprykin 1994, 69; Pečírka 1973, 128). It appears then that the 'οἰκία, πύργος, and αὐλῆ' site type is one kind of farm, but the archaeological data indicates that this is not the only farmstead type described in texts and uncovered in archaeology.

The evidence from lease inscriptions implies that there were farm buildings on the land that do not conform to the 'οἰκία, πύργος, and αὐλῆ' type. The lease of the demesman of Peiraieus *IG* II^2 2498 l.22–24 (321/0 BC), for example, states that the tenant receives a watertight house (οἰκία), but the text makes no mention of any other structures (Jones 2004, 30). Equally, in the lease of the *orgeones* of Egretes *IG* II^2 2499 l.5–7 (306/5 BC) the lease stipulates that the tenant will whitewash and decorate the house (οἰκία) (Jones 2004, 30). Another lease states that the tenant may build on the land (χωρίον), and when he leaves at the end of his lease, he may take the tiles, doors, and woodwork (*SEG* 24.203) (333/2 BC). In these instances, the structures are termed οἰκία, but it is not wholly accepted by researchers what the οἰκία actually refers to in these contexts (Cavanagh *et al.* 2005, 3; see Osborne 1985b 120–125; cf. Jones, 2000, 83). It is even conceivable, based on the epigraphic data, that it was not necessary to provide a detailed description of structures on farmed land. For example, in the case of the Delian inscriptions, the use of χωρίον may refer to all components of the farm including land, structures, and movable items (Hellman 1992, 209–210). As already, discussed in the previous chapter, the information on inscriptions varies and often a farm complex can be described in very vague terms. The inscriptions provide little information about what these structures actually looked like, or how their role facilitated agriculture. However, it is safe to conclude that these sites do not conform to the 'οἰκία, πύργος, and αὐλῆ' type of farmstead, and that other types of sites and structures, were used in farming. Because of the vague nature of the information from the texts, therefore, it is necessary to create criteria to aid in the classification of farmsteads as they manifest themselves in archaeology.

The first criterion for the identification of a rural site as a farmstead is its position in the landscape. It is wholly possible that some farmers carried out agricultural activity within the city borders, others commuted from the city to the countryside, and some resided in the countryside full-time. Therefore, the accessibility of farmsteads may be considered a factor in site location. Moreover, the leases discussed above suggest that agricultural structures, intended either for occupation or for storage, were located on the land that the tenant was farming. Consequently, it is a reasonable suggestion that farmsteads would be located on arable land. Aside from the question of accessibility, explored fully in Chapter 4, further fundamental concerns regarding the nature of the landscape and quality of the soil factor into agricultural production.

Here, it is necessary to review, in general terms, issues of slope, the nature of soils, erosion, and methods to retain soil nutrients, since the agricultural potential of the land and the means to improve soil quality were key considerations in site location. The characteristics of arable land are good soils and, in the absence of evidence for the use of extensive terracing, a siting on lesser sloping ground to limit the effect of soil erosion. Archaeology has indeed indicated that rural sites may be preferentially located on such ground. For example, in Keos there is a clear relationship between site location and slope angle of less than 10 degrees (Whitelaw 2000b, 234; see Whitelaw 1998, 234; 2000a). Furthermore based on past research it seems that 15° of slope is the extreme limit of cultivation without the use of modern technologies and equipment (Whitelaw 2000b, 234–235; Bevan and Connolly 2002–04, 126). Consequently, a number of surveys have identified a maximum of 10–15° of slope as a threshold for arable land for the ancient farmer (Catling 2002, 197). The slope maps (Figs 3.5–3.7) of farmsteads identified in the Akte, Methana, and Eurotas valley confirms the association between site location and slope of less than 10°.

Of course, in association with slope, the quality of soils also determines farming choices, in particular site placement, since the productivity of soils and their capability to create good yields is directly linked with their quality (Zangger 1992, 15). Theophrastus' section on soils (*De Causis Plantarum* II.4.1–12) refers to the different types of soil found in various geographical regions, the preference of soil types for

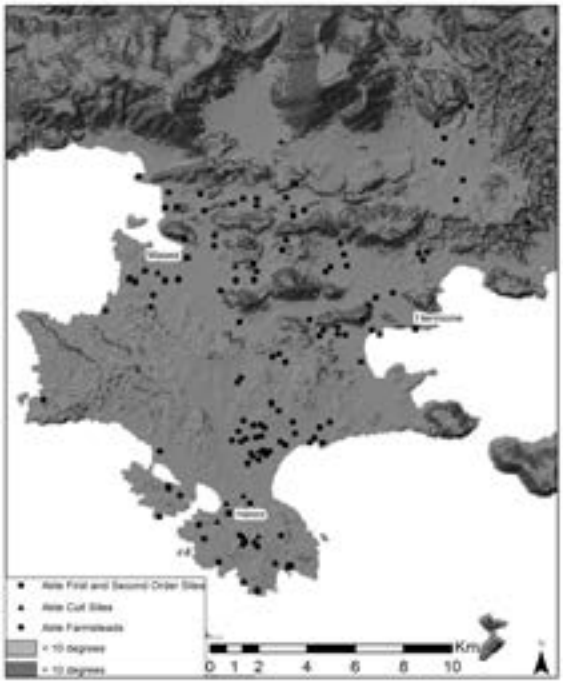


Fig. 3.5: Slope map of the Akte peninsula.

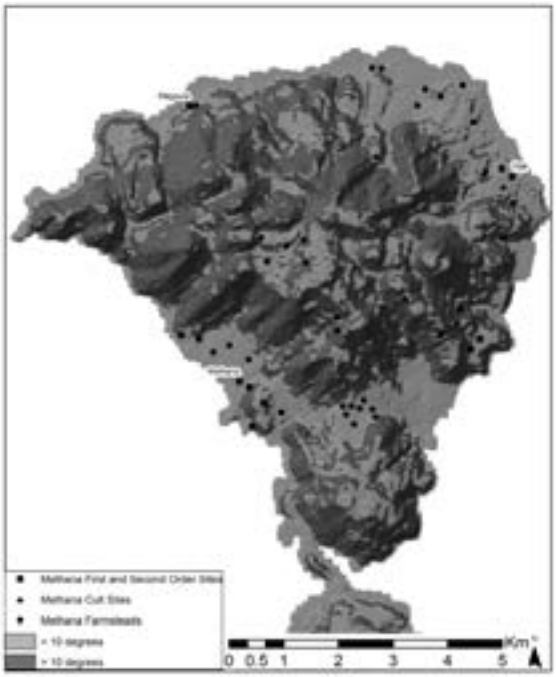


Fig. 3.6: Slope map of the Methana peninsula.

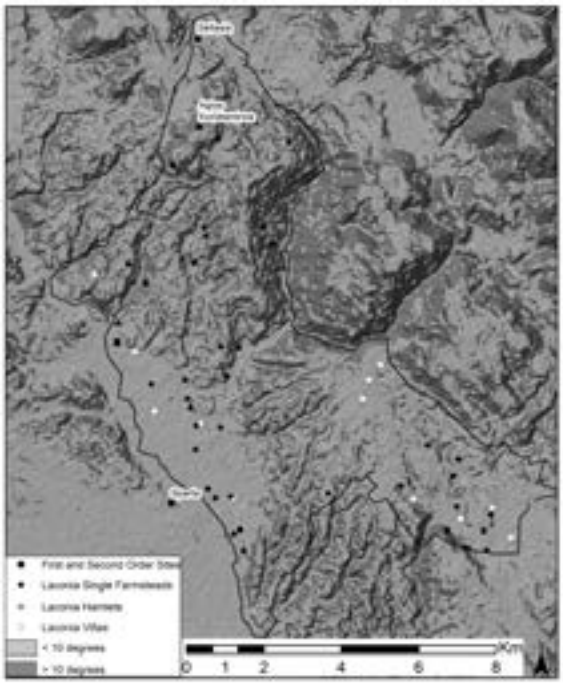


Fig. 3.7: Slope map of the Eurotas valley, Laconia.

crops, and soil maintenance practices. He identifies different types of soil based on their nature including open, closed, heavy, light, dry, and wet soils (II.4.9). These soil types, Theophrastus argues, are dependent on the geography of the area and the climate (II.4.11). This information suggests that farmers were aware of the relationship between soils and agricultural productivity, and were making farming choices based on slope and soil quality.

The soil quality in Greece varies greatly, not just between regions, but also across regions. As the slope maps of Methana, the Akte peninsula, and the Eurotas valley illustrate the physical morphology of the three areas range from plains, rolling hills, valleys, and steep mountains. Beginning with the Akte peninsula the land use map (Fig. 3.8) shows the data recorded as part of the European Union CORINE project, which generated geo-spatial data for natural, agricultural, and built environments. The map clearly shows that the majority of the Akte peninsula has viable arable land. Although the data records the recent land use, research carried out by the initial archaeological survey of the peninsula reported that the region was exposed to long periods of environmental stability interrupted by periods of brief irregular soil erosion and alluviation (Jameson *et al.* 1994, 189). The team concludes that if deep forest soil did exist on the peninsula, it had been stripped during the Ice Age before extensive human land clearances. Consequently, the introduction of agriculture certainly

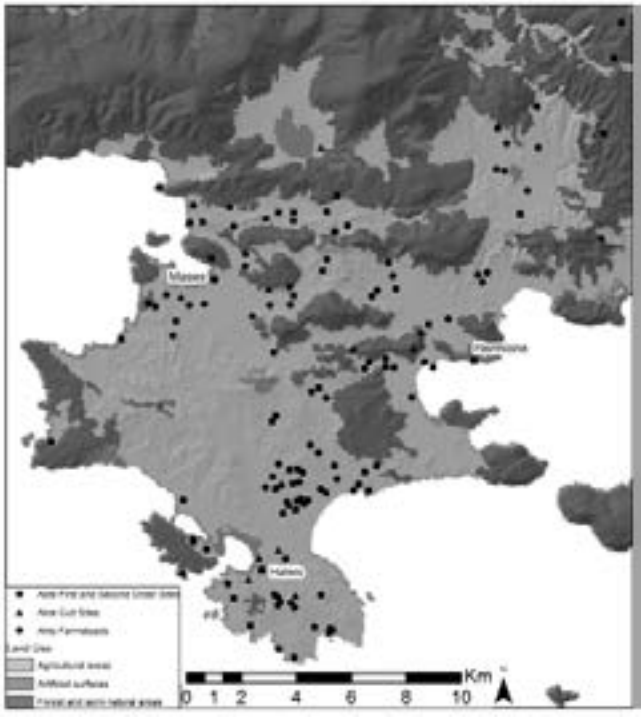


Fig. 3.8: CORINE land use data for the Akte peninsula.

aggravated the erosion of the landscape, but did not change soil levels drastically enough to result in a barren landscape (see discussion in Jameson *et al.* 1994, 193–194; VanAndel *et al.* 1990; Halstead 2000; Thommen 2012). Therefore, the CORINE data, with some modifications, reflects the same arable land available to the ancient farmer.

The landscape of Methana serves as a stark contrast to the rolling hills and fertile plains of the Akte peninsula. This landscape is truly rugged, consisting of narrow valleys, and extensively terraced steep mountain sides, with a marked contrast between the volcanic western side and the (relatively) gentler slopes on the eastern side of the peninsula (Fig. 3.9). There are upland basins, which provide flattish land, but these are not extensive. In this region, the morphological extremes force the farmer to engage in intensive landscape maintenance in order to produce enough from the land to survive, and to diversify his farming by utilising different elevations and soils (see Forbes 1976; 1982). To cope with the rugged terrain, farmers throughout the centuries (possibly as early as the Classical period) have terraced the landscape to both provide cultivable land and as an effective defence against soil erosion (James *et al.* 1997, 27–30). In Methana, there is a limited amount of evidence for erosion because of the nature of the terrain and extensive terracing (James *et al.* 1997, 25). The authors comment, however, that unlike the soil classes in the Argolid and the Akte, the volcanic soil types of the Methana peninsula are much less prone to erosion. Furthermore, the fluctuating population levels of the peninsula (which reached its peak in the Classical-Hellenistic period) means that it is possible that earlier human



Fig. 3.9: View of the terraced landscape of Methana, from the acropolis of Oga (photograph by the author).

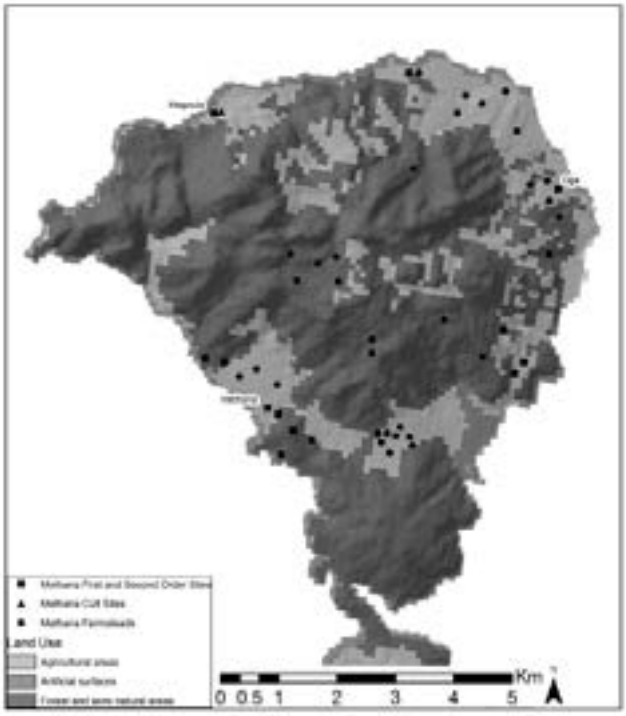


Fig. 3.10: CORINE land use data for the Methana peninsula.

incursions into the landscape did not have a negative effects on soil quality. Again, the CORINE data for Methana (Fig. 3.10) reflects the modern trends for land use. Although, the majority of the interior of the peninsula appears to be given over to woodland, the results of the soil analysis undertaken during the archaeological survey indicates that this land was particularly good for the growing of vines, reflected in the high number of presses in this area, therefore, in antiquity the interior was subject to intensive farming practices (Foxhall 1997, 263).

Finally, the landscape, of the Eurotas valley in Laconia provides an interesting comparison to Methana and the Akte peninsulas. The eastern side of the valley, where the archaeological survey was undertaken, is composed of three distinct geographical areas. In the northern sector, from the Kelephina River to ancient Sellasia, the area consists mainly of limestone mountains (vanBergham and Fiselier 2002, 67; Rackham 2002). Whereas the western side of the valley is bordered by the perennial Eurotas River and is divided north and south by the Kelephina River, this area is particularly fertile thanks to the alluvium from the two rivers. Generally, Laconia provides an example of a landscape, which varies, from plains and foothills, to steep-sided mountains. In agricultural terms, this means that the plains and foothills can be exploited for tree and cereal crops, while the higher peaks can be

used for pastoralism (Catling 2002, 198; Pope *et al.* 2003). With regard to soil erosion, the surveyors identify an increased amount of erosional episodes throughout the area between the Archaic and Classical periods, which may relate to human activity in the landscape (vanBergham and Fiselier 2002, 71). In Laconia, therefore, there appears to be similar trends to those in the Akte peninsula in that erosional episodes seem to increase after the introduction of humans engaging in agriculture, but the authors are cautious of identifying humans as the sole cause of erosion. Nevertheless, as in the Akte the soil profile of the deep alluvial soils on the valley floor remain similar to those available to ancient farmers. The CORINE data reflects (Fig. 3.11) the agricultural trends identified by the archaeological survey, therefore, as with the Akte and Methana peninsulas, it is feasible that ancient farmers utilised the same farm land as farmers today. Nevertheless, based on the results of soil analysis throughout Greece, it is clear that, overall, farmers do not engage with a static landscape. Instead, the landscape is constantly exposed to intermittent changes due to erosion; but, as highlighted above, some areas of the Peloponnese are more susceptible to these changes than others. The results from pollen data appear to reveal that vegetation cover fluctuated between periods of destruction and stability caused by human and natural factors (Gerasimidis 2000, 28; Atherden, 2000). Because of this, it is important to consider the nature of the landscape, and how natural processes affect farming choices.

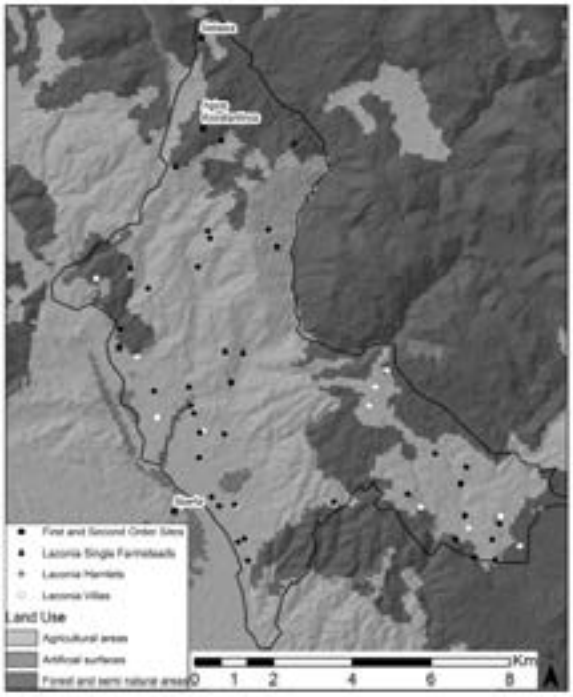


Fig. 3.11: CORINE land use data for the Eurotas valley, Laconia.

Finally, it is important here to outline briefly how the ancient farmer could have addressed the problem of soil degradation. By intensively farming year after year without allowing the soil to rest in order to replenish its natural nutrient balance, it will eventually become depleted, and its fertility will become greatly reduced (Shiel 2000, 55). Hot, dry summers (common in Greece) can also leech the nutrients stored in the soil, which in turn reduces its ability to hold moisture. This in turn can cause soil to become brittle and prone to erosion if it is exposed to torrents of rain during hot seasons. To restore soil nutrient balance, farmers have diachronically used rotation between cultivated and uncultivated fallow, manuring, and the growing of legumes, which, to an extent, can restore the missing nutrients to the soil (Sarpaki 1992, 60–62). There is some textual evidence suggesting ancient authors knew about crop rotation. However, researchers have noted that other factors outside soil quality would affect the annual yield, such as war and disease (see Garnsey 1989; Gallant 1991). Therefore, it is probable that agriculture worked on a cycle of good, middling, and poor yields of crops, and that the storing of produce from good yields was an imperative to maintain the household through the lean times (Rackham 1990, 106–107). To conclude, the Greek landscape has been exposed to climatic and human influences, which affect the extent of erosion throughout Greece. Importantly, it is necessary to remember that these influences are greatly varied, and dependent on natural and human factors, which are particularly difficult to evaluate. Nevertheless, based on the discussion it is clear that Greece is composed of a series of micro-regions in terms of both ecology and climate separated by expansive and rugged geography with rapid changes in elevation. This variability in climate, ecology, and physical morphology compel the farmer to adapt to the landscape he either chooses to or is forced to work with. Therefore, slope and soil quality were fundamental considerations for the farmer, and is a key criterion when trying to differentiate a farm from another site type.

The second criterion is site size. Textual and socio-economic studies have identified that the size of an ancient farm can range between 40 and 60 *plethra* (4–6 ha), for a 'hoplite' farm, and possibly 300 *plethra* (30 ha) for a wealthy farmer's estate (1 *plethron* = 0.1 ha). Importantly, these estimations and the range of sizes are in no way secure, and as already mentioned in the previous chapter, they include the extent of cultivable and occupied land. Regarding the archaeological data, in terms of survey material the term farmstead is often used to describe small pottery scatters, which do not meet the size requirements for larger hamlet, village, or town settlements, and where the artefactual material does not equal what would be expected from special purpose sites. Significantly, in contrast to the figures given in the texts, the data from survey are often incomplete and usually only identify the area for occupation rather than cultivation. Therefore, sites identified in landscape survey are often considerably smaller than the farms or estates, which are referred to in the textual sources. For example, rural 'small isolated' sites in the Akte peninsula survey range in size from 0–0.3 ha (0–3000 m^2) (Jameson *et al.* 1994, 420), and in Laconia the majority of 'simple farmsteads' go up to 0.7 ha (7000 m^2) (Catling 2002, 162). In their discussion of the

topic in relation to Methana the surveyors argue, based on the size of the Vari and Dema houses, that the size of 'a substantial Classical farmstead might be expected to cover an area of 0.03–0.04 ha (300–400 m^2) and even 0.01 ha (1000 m^2) with an enclosure wall' (Gill *et al.* 1997, 67). The Methana farmsteads, based on the pottery scatters, fall between 0.0616 ha (616 m^2) for a small farmstead and 0.138 ha (1380 m^2) for a large farmstead (Gill *et al.* 1997, 67). Likewise, the Asea survey recorded similar site sizes for farmsteads within the survey area, ranging between 0.05–0.7 ha (Forsén and Forsén 2003, 262). Based on the evidence from these landscape surveys, it is apparent that similar types of small rural sites are being identified based on their size, distance from larger 'urban' centres, and preponderance of ceramic material.

The third criterion is ceramic evidence, which indicates occupation and human activity on a site. Importantly, however, it must be pointed out that occupation of a site does not necessarily imply either permanent or temporary habitation. The domestic assemblages found at farmsteads are simply not adequate to fully answer that question (Whitelaw 1998, 230). Instead, by categorising the artefacts found within domestic contexts based on their function, different activities carried out within a site can be identified, and hence the site's role (Whitelaw 1998, 231; Nevett 1999, 41–52, & 179). This 'ceramic use typology' has been applied successfully to the study of rural farmsteads in a number of surveys, including Keos, Laconia, and Boeotia (Bintliff *et al.* 2007, 39; Cavanagh *et al.* 2005, 3–4; Whitelaw 1998). The three main functional categories are fine ware, domestic ware, and storage ware. A greater range of shapes and quality of decoration, including black glaze, stamped patterns, and figures, typifies fine wares (Sparkes 1991, 73). The types of fine ware vases found in domestic contexts are often associated with communal drinking and food consumption. They include the *kantharos,* the *skyphos,* the *kylix,* the fish plate, the salt cellar, and various bowls (Amyx 1958; Nevett 1999, 178–179). Domestic ware incorporates all the material used for the preparation of food stuffs including cooking, transporting, and serving. Domestic ware ceramics can vary in quality and manufacture. They can be made on a wheel similar to fine wares or made by hand, and could be fired at low temperatures. These ceramics were often left undecorated with minimal glaze application at the handles and rims (Sparkes 1991, 73). The shapes of domestic ware consist of open and closed vessels for the mixing and storage of goods, and include mortars, *lekane*, *kraters,* jugs, jars, braziers, table amphorae and cooking pots (Sparkes 1982; 1991, 73; Nevett 1999, 178; see Amyx 1958). Storage wares are large containers used for the long-term storage of food stuffs. These types include transport amphorae*, pithoi*, and storage bins. *Pithoi*, in particular, are relatively immovable objects, and are often built up by hand in the location where they are to be used (Giannopoulou 2010, 34). These three functional categories of ceramics are considered 'typical' of domestic assemblages. For example, at Keos the evidence of *lekanai, louteria,* mortars, table ware, and loom weights left the surveyors in little doubt that rural farmsteads supported year-round habitation (Sutton 1991, 248).

In order to highlight the feasibility of this categorisation further, Table 3.1 lists the functional categorisation of vessel forms, and compares the types to two excavated

Table 3.1: Evidence of domestic ceramics from urban houses and rural sites

Whitelaw's Functional Classification	*Attic Stelai*	*Halieis House 7*	*New Halos*	*Macedonia, Komboloi*	*Attica, Vari*
Fineware					
Bowl		Yes	Yes		Yes
Cup	VI.172–73	Yes	Yes		Yes
Dish		Yes	Yes		Yes
Kantharos		Yes	Yes	Yes	Yes
Krater	II.192	Yes			Yes
Kylix		Yes			
Lekane		Yes	Yes		Yes
Lekythos		Yes	Yes	Yes	Yes
Plate		Yes	Yes	Yes	Yes
Salt celler		Yes	Yes	Yes	
Skyphos		Yes	Yes	Yes	
Food processing					
Brazier	III.9	Yes	Yes		
Basin	II.4–5, 9–10, 11–12, 103–4	Yes	Yes	Yes	
Cooking pot	I.15–17	Yes	Yes	Yes	Yes
Casserole dish			Yes		Yes
Frying pan		Yes			
Hydria	II.190	Yes	Yes		Yes
Jar		Yes	Yes		Yes
Jug		Yes	Yes	Yes	Yes
Lekane	II.160	Yes	Yes		Yes
Lopas		Yes	Yes		Yes
Louterion	II.233–239		Yes		
Mortar	II.22–3, 25–6	Yes	Yes	Yes	Yes
Mortarium					
Oinochoe	V.35	Yes			
Skillet		Yes	Yes		
Strainer		No	Yes	Yes	
Table amphora		Yes	Yes	Yes	Yes
Tub			Yes		
Storage					
Amphora	II.240	Yes	Yes	Yes	Yes
Pithos	X.2; VI.52; VI.141ff	Yes	Yes	Yes	Yes
Storage bin					

(From Pritchett 1953; Ault 1994; Reinders and Prummel, 2003; Adam-Veleni *et al.* 2003; Jones *et al.* 1973).

urban houses and two rural farmsteads. The table also lists the comparable vessels recorded on the *poletai* inscriptions. The table shows that the urban houses at New Halos and Halieis have the most of the three functional categories, which suggests that a whole range of activities (including the communal consumption of food, cooking, and long-term storage of supplies) happened on site. In the examples of two excavated farmhouses, all three ceramic categories are represented, but with lesser variation in ceramic types.

The variation in the ceramic quantities and types between urban houses and rural farms may mark different socio-economic activities. For example, there is evidence of fine ware on farmsteads, which suggests the communal consumption of food and drink took place. But indicators of other types of activity, including loom weights, are scant, which leads to the conclusion that assemblages from farmsteads may be best understood if positioned on an urban to rural continuum, where the full range of human activity is represented in urban houses, which gradually diminishes in farmsteads (Foxhall 2004, 260–265). I return to this point later in this chapter in my discussion of the agricultural role of simple rural sites.

Regarding the nature of farmstead assemblages the presence of the three functional categories do indicate that activity happened which reflected their urban counterparts. Especially, the presence of large storage containers, such as *pithoi,* implies long-term storage of material or perishable goods, and suggests agricultural storage, and thus human interactions. The ceramic material found on farmsteads indicate a 'signature' which delimits a farmstead from background pottery scatters, and most importantly this signature can be used to further investigate its role in agricultural activity (Pettegrew 2001, 205; Winther-Jacobson 2010a, 284–285; 2010b, 116–118). The presence of a farmstead signature across survey areas is confirmed in Winther-Jacobson's analyses of a sampling and comparison of pottery from farmsteads identified in the Methana, LRSP, and TAESP survey projects. The conclusions reached illustrate that rural pottery indices which makes up the farmstead signature is consistent across the various survey areas with an 'approximate pottery index range of 20% cooking ware, 25% heavy utility/*pithoi*, 40% plain ware, <5% transport ware, and 10% table ware' (2010b, 108–109, table 45 & fig. 33). Thus, the ceramic characteristics of farmsteads, in general terms, indicate that these sites hosted activity for the preparation and consumption of food stuffs along with the long-term storage of supplies. These figures represent what we can expect to find in the 'average' farmstead, and as we shall see, the variations in types of ceramics, greater number of storage ware and/or the presence of additional material, at farmsteads can lend further insight into the role of the site.

The application of the 'ceramic use typology' illustrates that farmsteads shared similar domestic roles to urban houses, this in conjunction with the 'farmstead signature', helps further define and categorise these sites. This criteria is important in the identification of farmsteads, because ceramics are sometimes the only visible evidence for a farmstead. Admittedly, none of this material directly connects these sites to agriculture, but the presence of these types of ceramics is a strong indication

that there was increased activity in the countryside (Morris and Papadopoulos 2005, 163–167). An important inclusion in the discussion of ceramics to define farmsteads is the presence of roof tiles, which indicates the existence of a roofed structure. Often roof tiles are the only remainder of a structure was on the land since, the size and weight of roof tile fragments mean that these would be the least mobile of artefacts both for the abandonment of a building and later post-depositional erosion. Therefore, 'a dense concentration of tile should indicate quite clearly the location of a structure.' (Cavanagh *et al.* 2005, 292).

The fourth criterion is the presence of agricultural tools on a farm. Handheld tools for the processing of grain, such as saddle querns and hopper-rubber mills, do not indicate that they were used for large-scale agricultural processing unless they are found in large numbers (as in Olynthus House A6; Cahill 2002). Instead, the presence of grinders suggests that cereals were processed for household consumption. The evidence of other objects such as sickles, hoes, ploughs, and mattocks indicate that the farm may have been used as a base, for either occupation or storage, for those working fields nearby. Therefore, this criterion suggests that while agricultural activity happened on or near the site, due to the mobile nature of these objects, the farmstead is not considered an agricultural installation. Instead, farmsteads, which have evidence of large-scale processing of crops, are considered a site type in their own right. Finally, evidence of terraces can be indicative of intensive agricultural practices. Terraces, unlike presses and threshing floors are not considered installations. Instead, they are regarded as part of the management and utilisation of the land for the purpose of intensive farming practices. However, the dating of terraces is extremely difficult, and ancient Greeks may have used other means of land management in addition to terraces (see Foxhall 1996). Nevertheless, in some instances ancient terraces have been found in close enough contexts to date them as contemporary to the site, for example at Atene, where several ancient terrace systems were mapped and dated as contemporary to the farmsteads in the region (Lohmann 1993).

The criteria of location, size, ceramics, and agricultural tools, formulated above for identifying farmsteads, do not only help distinguish farmsteads from other rural sites, but should help identify differences between farmsteads themselves. The criteria are broad enough for their application to all site classes. At the same time, the criteria are specific enough to be applicable to individual farmsteads suitable for agriculture. The following sections will attempt to apply the criteria to the three types of farmsteads: towers/towerhouses, installations and simple rural sites. The purpose of this is to interpret the role of farmsteads and to understand how the different site classes facilitated agricultural industry.

Farm tower complexes and towerhouses

Under certain conditions towers may be indicators of agricultural activity associated with wealthy farmers' use of slave labour. However, agriculture is only one of the

uses that towers had in the landscape, and Young, who was the first to propose a list of roles for rural towers (reproduced below), believes that their location in the countryside is often a means of clarifying their role:

- Towers located on high vantage points and on roads suggested that these formed part of the defensive network of a territory (for example Ober 1985).
- Towers functioning as lighthouses/watchtowers are located on a headland, a bay, or a harbour. For example on Thasos, an inscription claims that the tower is a saviour to ships and sailors (Osborne 1987, 66; Kozelj and Wurch-Kozelj 1989). A similarly located tower was noted at Leukas (the Kroupa tower) (Morris 2001, 340).
- Towers such as those found close to mines at Thasos, Thorikos, and Siphnos are associated with mining activity (Osborne 1987, 63–69; Morris and Papadopoulos 2005, 169ff).
- Agricultural towers, meaning towers that served agricultural enterprises, are identified as such based on their location on lower slopes or poor defensible location found close to other structures or agricultural installations (Young 1956, 133ff; Munn 1983, 30–42; for agricultural towers in Phocis see Rousset 1999; 2002).

A tower's identification as domestic and agricultural structures rests, partly, on the topographical location of towers. Locations of towers away from urban centres, and on lower slopes with poor visibility are some of the key identifiers for domestic towers, rather than those for defence, which require visibility of the landscape and a defensive location to fulfil their role (Fachard 2012, 248). Concerning their appearance, tower complexes, like the Princess Tower (Fig. 3.12), located in Attica and a number of the Greek islands consist of a freestanding tower, at least two storeys tall, enclosed by walls, and often with additional walled units within (Young 1956, 136; Nowicka 1975, 31–35). The enclosure walls are usually made of poorer quality material than the

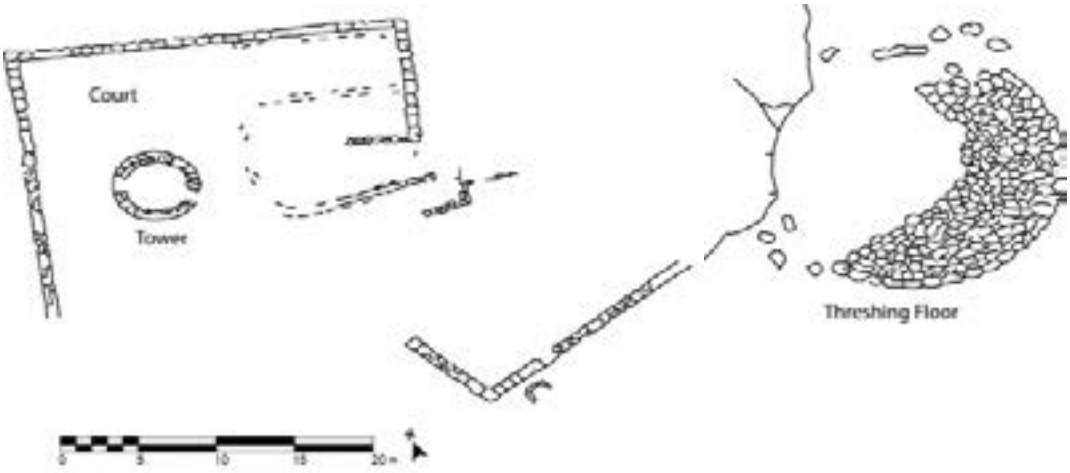


Fig. 3.12: 'Princess Tower' complex with threshing floor (after Young 1956, 123).

towers themselves suggesting the protective nature of the tower and secondary role of the surrounding walls (Lawrence 1979, 189; 1996; Munn 1983, 36; Lohmann 1993, 156–158). Often the only preserved element of the tower complex is the tower itself, with traces of secondary walls and structures. Privately constructed towers for housing and storage, as opposed to those built as part of territory fortifications; emerge in the fifth century BC (Lohmann 1993, 158; Fachard 2012, 247–248). However, the majority of domestic towers date from the fourth to the third centuries BC, possibly reflecting an increase in the intensification of agriculture during this period (Lohmann 1993, 157–158). Despite attempts to trace the morphological developments of circular and rectangular towers between the Classical and Hellenistic periods, it seems that there is no way to date a tower based on its shape and masonry style alone, since both styles are used contemporaneously. Therefore, we are reliant on the context of the tower and accompanying ceramic material to aid in the dating and identifying a role for the site.

Towerhouses, such as the Vari house (see Fig. 1.1), again, belong to the Classical-Hellenistic period. As the name implies, these sites consist of a structure with a similar room order as the typical Greek *pastas* house type, with a series of rooms, which open onto a courtyard space; usually one of these rooms has thicker walls to support upper floors (Jones *et al.* 1973, 438; see Jones 1975, 100–126). The towers of these houses can have direct access to and from the courtyard, and have been found in both urban and rural settings, for example at Voula, Vari, and, Asprovalta (Jones *et al.* 1973; Andreou 1994; Adam-Veleni *et al.* 2003). The presence of additional rooms, in a plan akin to that of urban houses, indicates that these rural sites supported similar domestic activity to their urban counterparts (Nevett 1999, 82–97; 2005). Where these structures differ from their urban *pastas* counterparts is the inclusion of a tower. The intrinsic protective nature of freestanding towers and towerhouses suggests that there was a need for self-protection by those inhabiting the rural landscape (Osborne 1987). The defensive role of the towers associated with towerhouses is clearly evident, albeit in a different geographical area, in the towerhouses on the Crimea, which were adapted and fortified further with anti-battering ram bases in a later rebuilding, dated to the third century BC, because of raids from Scythian tribes (Saprykin 1994, 71). Towers, whether part of a house or freestanding, served as an assurance for those working the land that during times of unrest they could retreat to the tower, as the slaves do in Demosthenes 47. Regarding their identification as agricultural, the location of these towers and their associated ceramics suggest activity similar to domestic occupation took place there. This, along with the proximity of the site to arable land, has led scholars to suggest that these structures in several territories are associated with farming in addition to a militaristic or civic role (Morris and Papadopoulos 2005, 156ff; Zavvou 2002). Finally then, it is clear that towers served a number of purposes, including agricultural ones, and importantly changing the interpretation of the role of *all* towers from military to agricultural does not take into consideration the variations in tower location and context. Therefore, to understand the role of towers,

in this case agricultural ones, it is necessary to apply the criteria formulated above to interrogate how these sites facilitated agricultural industry.

The criteria for farmsteads applied to tower complexes and towerhouses

Morris and Papadopolous' (2005) recent treatment of agricultural towers in ancient Greece is an important step forward for this topic in that they have attempted to combine the archaeological and textual evidence for towers to explain their agricultural role. As such their exhaustive study argued that the majority of towers in the landscape were associated with wealthy landowners, and particularly, indicative of maintaining awareness of slave labour and the storage of slaves in the countryside. Although it is unlikely that this explanation fits each instance of an agricultural tower, the very nature of these structures implies that storage, of tools, goods, produce, as we shall see, was a key factor in their use.

The intensive surveys of Atene (Appendix Table 1), the Akte peninsula (Appendix Table 5), and Methana peninsula (Appendix Table 10), landscapes, and the extensive survey of the Eretrian territory all identified tower complexes associated with farming within their respective survey areas (Jameson *et al.* 1994; Mee and Forbes, 1997a; Lohmann 1993; Fachard 2012). For instance, the two towers Methana Tower 2 (Fig. 3.13) in Methana and Akte Tower 5 (Fig. 3.14) in the Akte are both located on low hillocks with views of the surrounding landscape and coast. Because of their elevated coastal position, it is easy to think that these towers did not serve an agricultural purpose; however, on closer examination of the ceramic material and other evidence, it is feasible that these



Fig. 3.13: Methana Tower 2/Methana Installation 1, on the acropolis of Oga Methana peninsula. Photograph by the author.



Fig. 3.14: Akte Tower 5, Akte peninsula. Photograph by the author.

towers may also have had an agricultural function (discussed further below). Examining the slope data from the Akte and Methana surveys (see Figs 3.5 and 3.6) illustrates the location of towers dating to the Classical-Hellenistic period. The identification of towers in both surveys was based on visible structural remains and evidence of large cut blocks. The majority of towers in both areas are located on slopes between 5° and 20°. Hence, some towers were located on steeper slopes than suggested for farmsteads. Moving to Attica, over the course of the Atene survey 12 sites were classified as *Turmgehöfte* (tower farmsteads) (Lohmann 1993, 137). Towers associated with agriculture are again identified partly by the location on lower slopes and overlooked valleys such as Atene Tower 3 and Atene Tower 9 (Lohmann 1993, 145). However, other tower farmsteads are located on hilltops, or built into steep slopes like Atene Tower 10 and Atene Tower 5. Similarly, the extensive survey of the territory of Eretria identified several towers with visible structural remains as agricultural due to their non-defensive geographic position and the nature of their ceramic assemblages. For example, the tower complex (site number 178) has poor views of the surrounding landscape and is located on lower sloping good agricultural land (Fachard 2012, 235–236). Slope, therefore, may not be a deciding factor in identifying the role of a tower; instead, it is necessary to take into consideration the position of the site in the landscape and associated artefactual material before drawing conclusions. Furthermore, it is probable that the position of towers on steeper sloping ground is related to their protective role, but this does not exclude them from being associated with farming.

Perhaps the most telling indicator of a tower's role in the landscape is the nature of the ceramic assemblage. In the beginning of this chapter I stressed that farmsteads, whatever form they take, often resemble the domestic assemblages found in their urban counterparts, and the presence of fine, domestic, and storage ware is characterised as a 'farmstead signature'. For instance, the study of the artefact assemblages of towers on Keos led the surveyors to conclude that many towers had 'the accoutrements of rural life: pottery for storage, transport, and processing, domestic wares, fine table service, millstones, presses, cisterns, beehives, and so on' (Cherry *et al.* 1991, 294). Therefore, as with other farmstead types, agricultural towers *should* display similarities to the 'farmstead signature'. It is worthwhile here then to compare the conclusion reached by the Kea survey with the evidence of towers in other survey areas.

Continuing with the Akte peninsula survey, of the five Aktean towers (Appendix Table 5), the surveyors concluded that Akte Tower 1 and Akte Tower 5 (Fig. 3.14) were most likely farmsteads due to their position in the landscape and ceramic characteristics (Jameson *et al.* 1994, 506–508). Both towers yielded the highest quantity of sherds, with a full complement of all three ceramic classes, although the surveyors collected no other additional material (loom weights, spindle whorls, etc.), therefore these towers somewhat resemble the 'accoutrements of rural life' identified in the towers on Kea. The three remaining towers Akte Tower 2, Akte Tower 3, and Akte Tower 4, yielded less sherds and only two classes of ceramics. The lack of fine ware at these towers implies that habitual activity such as formal food consumption did not take place, which in turn may be an indication of the sites' secondary roles as centres for storage rather than occupation. Furthermore, there is a correlation between the characteristics of ceramics and the location of the towers in the peninsula. The surveyors recall that overall towers to the north and interior of the peninsula have a greater number and types of ceramics than those on the southern coast. This led the survey report to conclude that towers located along the coast had a defensive role, reflected in the limited quantities of domestic ceramics and that 'security was a major reason for the inclusion of stone towers in the building' (Jameson *et al.* 1994, 396). This need for added security along the southern coast can be explained by referring to the history of the peninsula. During the first Peloponnesian war (460–451 BC), one of the first acts of war was an attack on Halieis (Thucydides, *Peloponnesian War* 1.105.1; Diodorus Siculus, *The Library of History* 11.78). This attack suggests that Halieis was important for the Spartan defence in this area, and the Athenians wanted to either destroy the fortifications or prevent the establishment of a base in the city (Jameson *et al.* 1994, 76). It stands to reason, since farmers living with the threat of attack, would prefer to use towers as sites for storage and, when needed protection, rather than as places of longer-term occupation.

On Methana, there are six identified towers (Appendix Table 10) within the peninsula. Both Methana Tower 2 and Methana Tower 4 yielded the highest number of sherds and all three ceramic classes. Methana Tower 2, as illustrated in the appendix

table, has a considerably higher sherd count than the other five towers. This tower is located, in what the surveyors believe to be the site of Oga, therefore it can be classed as an urban tower. However, it is still worthwhile to include this site in the discussion, since the presence of pressing installation, clearly signifies its agricultural role. Furthermore, such high quantities of the three ceramic classes strongly indicate that Methana Tower 2 was also a centre for prolonged occupation. Perhaps this is an excellent example of an urban farmstead, and helps elucidate the possibility, that agriculture did not stop at the borders of urban centres. I return to the relationship between urban and rural agricultural sites in the following chapter. In contrast to Methana Tower 2's 'urban' setting, Methana Tower 4 is located in a rural setting on a two degree slope in a flat-bottomed valley between two steep-sided mountains. In addition to visible structural remains the site also has evidence of an installation (Methana Installation 2) including two large cut blocks with beam holes, press weights, and press beds, which along with the ceramic material (Table 3.2) date between the Classical to Late Roman periods (Mee *et al.* 1997, 170; Foxhall 1997, 267). The extended existence and duration of occupation along with the presence of several installations suggests that Methana Tower 4 was a successful agricultural and residential site. I discuss the possible reasons behind the position and success of this tower, and other site classes in the interior of the peninsula, in the following chapter. The remaining three sites (Methana Towers 1, 3, and 6) yielded very little ceramic evidence, which makes it difficult to assign a residential and/or agricultural role. For instance, although Methana Tower 6 (Fig. 3.15) is located on lesser sloping ground only one sherd was collected. The surveyors conclude, 'the lack of pottery makes it unlikely that the tower was part of a habitation, and it was more likely a watchtower guarding the route between the coasts of Methana' (Mee *et al.* 1997, 138). Therefore, Methana Tower 6 is best understood as part of the network of defensive sites, which are clustered to the

Table 3.2: Classical–Hellenistic ceramic types from site Methana Tower 4/ Methana Installation 2

Shape	*Fabric*	*Decoration*	*Date*
Lekane	Fine	Black Glaze	Classical
Closed vessel	Fine	Black Glaze	Classical
Open vessel	Fine	Black Glaze	Hellenistic
Open vessel	Fine	Black Glaze	Classical to Hellenistic
Jug	Medium Fine	Unpainted	Classical to Hellenistic
Open vessel	Medium Fine	Unpainted	Classical to Hellenistic
Olpe	Fine	Unpainted	Classical to Hellenistic
Jug	Medium Fine	Unpainted	Classical to Hellenistic
Jug	Fine	Unpainted	Classical to Hellenistic
Lekane	Medium Fine	Unpainted	Hellenistic
Amphora X3	Medium Fine	Unpainted	Hellenistic to Roman



Fig. 3.15: Methana Tower 6, Methana Peninsula. Photograph by the author.

south of the peninsula, along the isthmus connecting the peninsula to the mainland. Finally, the ceramic material from the towers in Methana, are in some ways, similar to those of the Akte, where very few sites give a clear indication of their residential role. Although the precise activities at each tower may well have varied, the ceramic material indicates that domestic activities did occur. Furthermore, despite the limited ceramic evidence, the surveyors conclude that towers were most probably agrarian structures, and due to post-classical intensive land use, many towers will not have survived (Gill *et al.* 1997, 66). Importantly, despite their limited number these towers do not have an ambiguous agricultural role in comparison to those in the Akte, in that three of the six towers had agricultural installations whereas in the Akte only one of the five towers had a press bed.

The ceramic characteristics of the 12 turmgehöfte investigated in Atene (Appendix Table 1) are different to those of the Akte and Methana survey areas. Unlike the previous two areas, here it seems that the majority of towers supported domestic activity as indicated by the presence of all three ceramic classes. Due to the uniformity in the nature of the evidence and structures, Atene Tower 5 (Fig. 3.16) serves as an example of the nature of Atene towers and their ceramic repertoires. The remains of

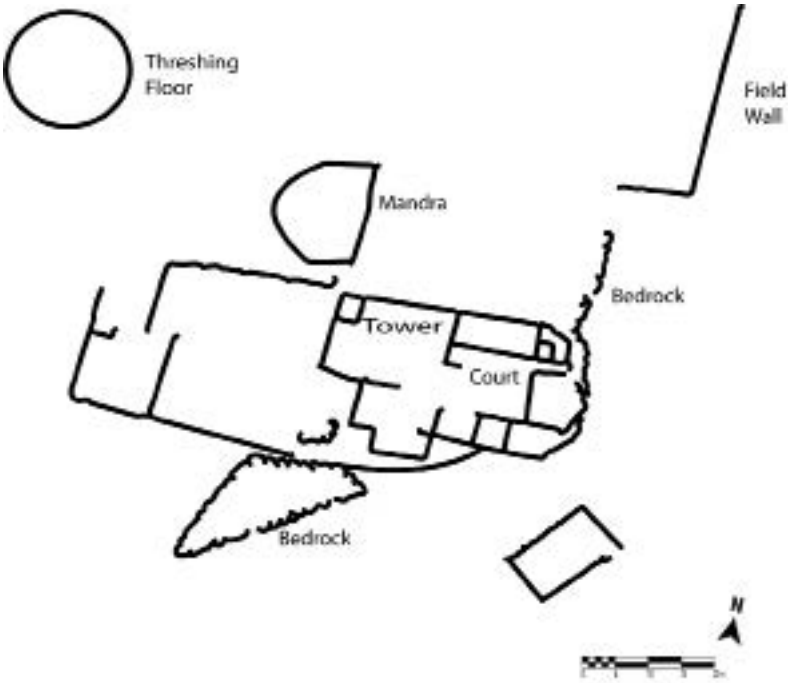


Fig. 3.16: Turmgehöfte *Atene Tower 5, Atene survey, Attica (after Lohmann 1992, 49).*

a tower structure with surrounding buildings were mapped during the Atene survey (Lohmann 1993; 1994). The tower complex is built into the side of a hill, with terraces to support the additional structures along the slope indicating the considerable skill and expense that went into the planning and building of the structure (Lohmann 1994, 115). The reconstructed tower complex is composed of a tower with enclosure wall, divided into two courtyard spaces, which may have divided the domestic and economic activities at the site (Lohmann 1993, 162). The presence of stables and outhouses along one courtyard, and an *andron* in an adjacent room to the smaller courtyard appears to confirm this theory. In addition to its basic domestic nature, as evidenced by the three ceramic classes, the existence of an *andron* indicates that significant social interaction happened here, beyond simple every-day domestic activity. Concerning Atene Tower 5's agricultural role, the presence of not only three threshing floors, but also the remains of a lever press illustrates that it processed a considerable amount of agricultural produce (Lohmann 1994, 85–89). Here, then, this site gives a clear illustration of the nature of large agricultural tower complexes, and the dual domestic and industrial role these sites had.

Two excavated examples of tower complexes can give further insight into the range of activity they supported as indicated in the survey material. The rescue excavations at Kokkaloi in southern Euboea revealed the remains of a tower and adjoining structures (Chatzidimitriou and Chidiroglou 2014, 312). The tower measures between

11.8 and 16.7 m and dates to the fourth century BC. A wall, of rubble construction, projects north from the western side of the tower, and a similar wall runs northeast, possibly forming an enclosure around the structure. An additional smaller structure, of similar masonry to the tower, was uncovered to the east of the excavated area, with burnt material signalling this space as a hearth. The archaeological remains indicate that the structures were roofed with tile and organic material, and traces of plaster, with red paint, were uncovered. Importantly for its identification as an agricultural tower, an inscription was uncovered close to the hearth, which refers to a contract for leasing public land to a private farmer, who is obliged to cultivate the land and burn the wild bush and weeds (Chatzidimitriou and Chidiroglou 2014, 316). In relation to its agricultural role, the presence of stone vessels for grinding grain and kneading dough (uncovered in the tower) along with amphorae and other storage ware suggests the functional role of the tower in contrast to the domestic role of the secondary structures. Here then, we have another excellent example of an 'οἰκία, πύργος, and αὐλῆ' type of farm. The wealth of material, including lamps, furniture fragments, and a domestic altar, indicates that this was a site for prolonged habitation, along with the evidence of the processing and storage of grain, *and* the inscription gives solid proof of the agricultural role of the tower. As with the examples of towers from survey, however, not all excavations reveal such definitive results. For example, the tower excavated at Pyrgouthi in the Berbati Valley, which promised to reveal its agricultural/domestic role, led the excavators to conclude that 'the excavated material which was judged to belong to the Early Hellenistic period neither supported nor denied an agricultural function for the tower' (Penttinen 2005, 115).

With regard to the protective nature of towerhouses, the excavations on the peninsula of Chersonesos on the Black Sea revealed several of these complexes, located on plots of land intensively farmed by the occupants (Saprykin 1994). The towers of the structures were rebuilt and reinforced with anti-battering ram bases over the fourth century BC in response to attacking forces. Similarly, on mainland Greece, where occupants and those working the field could be exposed to raids from pirates, other citizens, and armies (as we have already seen for the Akte), these towers presented an opportunity for safety and refuge. The archaeological evidence for tower complexes has highlighted that they can be considerably large and well-constructed, and support domestic and economic activity, while others, based on the lack material, may have hosted periodic activity. However towerhouses, by their very nature, suggest a more permanent presence in the landscape by occupants. Perhaps the most famous example is the Vari house in Attica (see Fig. 1.1). Table 3.1, above, lists the ceramic material from the Vari house, and in comparison to the ceramics found at excavated urban houses it reflects well the typical ceramic types. The presence of fine, domestic, and storage wares implies that a range of activities happened on the site, including the preparation and cooking of food, the storage of perishable goods and the communal consumption of food and drink. Indeed recent studies have used the ceramic assemblages from the Vari and Dema houses

as exemplars of the types of ceramic material found within a 'typical domestic assemblage' (Lynch 2011, 46; Rotroff 1999; cf. Foxhall 2007). Lynch uses the Vari and Dema houses ceramic assemblages for a comparison with excavated houses in the Athenian *agora*, and reaches the conclusion, based on detailed evaluation of the percentages of total wares, that the Vari and Dema houses provide a profile for 'a typical Classical household assemblage' (2011, 46). However, the rural Vari and Dema houses do differ from urban houses in that they have an increased quantity of coarse ware and storage ware with fewer fine wares; this pattern is typical of the 'farmstead signature' discussed in the beginning of this chapter. Despite the often contentious nature of scholarship surrounding the Vari and Dema houses, the physical evidence – structures and ceramics – shows that they supported activity that mirrored domestic activity in their urban counterparts. With this conclusion in place, we cannot regard these sites as anything other than rural houses. Of course, their agricultural role is still speculative, and in the following chapters, rural houses will be placed in their agricultural context by understanding how they formed a network of sites to facilitate agricultural industry.

Aside from large scale installations and grinders, little evidence of other agricultural tools have been discovered at towers in the areas discussed above. It is most likely that after the abandonment of the site mobile objects may have been removed. Their absence in the archaeological record does not mean, however, that they were not present when the farm was in use, since the presence of threshing floors in Atene (e.g. Atene Towers 1, 3, 5, 8, 9, 10, and 12) imply that the tools used in the threshing of grain, such as the harrow and winnowing shovel, would also be present. Similarly, towers, which have evidence of presses for the processing of oil implies that they would have the relevant tools for the maintenance and harvesting of olive trees. For example, evidence of agricultural tools does come from the excavated examples of towerhouses in Macedonia. The fourth century BC towerhouse at Komboloi produced evidence of a two pronged hoe, sickles, and pruning hooks associated with the maintenance and processing of crops (Adam-Veleni *et al.* 2003, 236–240). Due to their small, mobile nature, these types of object may not be identified in a survey. But importantly, their absence does not exclude it as a farmstead; rather the presence of these objects sheds further light on the activities of those occupying the site. In applying the criteria to a number of examples of tower complexes and towerhouses, it is evident that the variety of ceramic evidence varies, which perhaps reflects the range of roles towers might have had, from seasonal/intermittent occupation to full-time residence. Additionally, this survey of the archaeological evidence has shown that in some instances, tower complexes can be quite large, with several rooms, courtyards, and additional structures. These larger complexes may be indicative of wealthier landowners, or perhaps those that are willing to invest in considerable structures in the landscape, implying that these towers are their primary residence. In this section then the discussion of the archaeological evidence has shown how the criteria can helpfully illuminate differences and similarities

between the archaeological materials, which in turn goes some way to explain their socio-economic role in society.

Agricultural role of tower complexes and towerhouses

Towers were expensive to construct; for example the construction of the Cheimarrou tower on Naxos has been estimated to cost upward of 8000 drachmai (Morris and Papadopolous 2005, 164; Haselberger 1975, 47–48). Given the cost of their construction, therefore, towers were not residences for poorer farmers (Munn 1983, 77 fn 99). Osborne explains that the scale of these structures, their imposing presence in the landscape, and the cost, both in terms of the time needed for their construction and in monetary terms, shows that they were built as ostentatious examples of display by city elites or wealthy landowners (see discussion Lawrence 1979, 188–192; Osborne 1992b, 50–51). Certainly, the large scale of the towerhouses excavated in Macedonia suggests that these were used by wealthy landowners intensively farming the land (Adam-Veleni *et al.* 2003). For instance, in the case of the Akte and Methana surveys towers make up 19% and 5% of the total farmsteads in each region respectively. But, the number of towers found in the survey area of Atene (some larger than others), Sounion, Phocis, Eretria and Karystos suggests that towers served more practical functions too, as well as, display. From this evidence then, it seems that towers represent farms catering to a smaller (elite) proportion of the population, and were not the choice structure type for the majority of farmers. Turning to practical reasons for their construction, towers, whether connected with agriculture or not, were used for defensive or protective purposes. The use of privately constructed towers in the landscape, for the most part, coincides with the intensification of agriculture in the fourth and third centuries BC, which for Morris and Papadopoulos (2005), is directly related to the use of agricultural slave labour. In that the nature of tower construction, position of doorways, and evidence that doors could be locked from the outside meant that slaves, produce and tools could be locked in at night and during times of trouble (Haselberger 1978, 345; Morris and Papadopoulos 2005, 189–190). Undoubtedly slaves did farm estates for elite landowners/tenants, for example, the Delian inscription of the *Hiera Syngraphe* (XVIII 33–38) details the penalties if a tenant defaults on his lease which results in the confiscation of the farm's slave workforce. Kent believes this penalty denotes that these estates were farmed wholly by slave labour (1948, 280). But again, the numerous towers in concentrated areas, particularly the Aegean islands, eastern Peloponnese, and Attica, cannot imply that *all* of these areas were farmed with large slave labour forces. Likewise, the lack of towers in other areas surely cannot mean that they did not employ slave labour or have wealthy landowners. In reality, the role of towers as examples of wealthy ostentation or monitoring of slaves will perhaps have to be considered on a site-by-site basis. Undeniably, however, towers did serve as defensive structures, but towers are impractical as long-term defensive sites. Unlike a garrison or fort, they have limited space for housing troops, and most importantly, towers are not practical against a large attacking force. Towers are most defensively

effective during quick raids by small groups of men (Munn 1983, 50–51). As the incident in the passage from Demosthenes 47 quoted in the introduction to this chapter, where the attacking men were thwarted from taking more furniture and slaves because the female slaves had locked themselves in the tower. Farm towers then, as Munn defines them, are 'small private forts designed to safeguard the goods and chattels ... of the individual landowner' (1983, 42), meaning that towers could serve a domestic role as storage and/or accommodation, and protection when under attack. Therefore, perhaps it is better to describe towers in the countryside as protective rather than defensive, since they were only defensive for short periods of time and would not be effective during a prolonged attack (Munn 1983, 42; Morris and Papadopoulos 2005, 162). Tower complexes and towerhouses, then, provided protection for those residing in the countryside, since, unlike their urban counterparts; they would not have had the benefit of the city walls (Osborne 1987, 67). Therefore, towers are akin to private small forts and their presence in the countryside is indicative of the 'insecurity and need for self-help ...' of those farming the land (Osborne 1987, 67). In texts, the Greek word ἔπαυλις perhaps directly refers to fortified farmsteads, and an intriguing passage in Plutarch, which recounts Eumenes' army wintering near Kalainai in Phrygia, highlights their defensive capabilities (Munn 1983, 61):

> ... having promised to give his soldiers their pay within three days, he promised them homesteads (ἔπαυλεις) and castles about the country, which were full of slaves and flocks. Then every captain in the phalanx or commander of mercenaries who had bought a place was supplied by Eumenes with implements and engines of war and took it by siege; and thus every soldier received the pay that was due him, in a distribution of the captured properties. (*Eumenes* 8.5)

This passage illustrates two points made above, firstly, these fortified farmsteads, are sufficient remuneration for Eumenes' troops since they 'were full of slaves and flocks'. This indicates that these ἔπαυλεις were estates of considerable monetary value. Secondly, albeit it is not clear the extent of the sieges waged on these farms, the need for 'implements and engines of war' indicates that the structures themselves were considerably well-built. This passage then illustrates well the points made about the socio-economic significance of agricultural towers. Equally, their defensive and agricultural role is illustrated in a passage from Diodorus Siculus' account of the Athenian army plundering and terrorising the Peloponnese in 430 BC:

> During this year [430 BC] the general of the Athenians never ceased plundering and harrying the territory of the Peloponnesians and laying siege to their fortresses; and when there were added to his command fifty triremes from Cercyra, he ravaged all the more the territory of the Peloponnesians, and in particular he laid waste the part of the coast which is called Acte [the Akte peninsula] and sent up the farm-buildings (ἐπαύλεις) in flames. (12.43)

Although the passage does not expressly state that ἐπαύλεις were fortified, the use of the term, when compared to Plutarch's passage above seems to refer to larger/fortified farms. This passage ties in neatly with the above discussion of the archaeological evidence for towers in the Akte peninsula, since the surveyors previously noted that

the nature of Aktean towers reflected the peninsula's historical events. As to why these sites were targeted, perhaps their defensive nature posed too much of a threat for the attacking Athenians, or as we have seen in the case of Eumenes' army, the farms were targeted because these represented the homes of wealthier individuals, and therefore offered a greater chance of booty for the attacking force.

In summary, it seems that the layout of both tower complexes and towerhouses fit the model of 'οἰκία, πύργος, and αὐλῆ' type of farm. It is therefore likely that towers within tower complexes and towerhouses served several roles, namely as status symbols for the elite, for protection, as well as for additional storage. The layout of these structures and their similarities to urban houses, most evident in towerhouses, would suggest that they were more residential than their tower complex counterparts; however, this may not always be the case. It is clear that location is an important consideration when investigating the role of towers, and to a certain extent towerhouses. Therefore, towers located on lesser slopes close to or on arable land may have had an agricultural role, but as we have seen, this does not definitively prove their role. The best indicator of the tower's domestic role is the presence of ceramic material, along with additional areas for domestic activity. Finally, the presence of tools or installations confirms the role of the tower/towerhouse, at least in part, as agricultural. Perhaps the most obvious role for towers in agriculture is storage; however, it is not necessary to have a tower to store goods and chattel. Consequently, the presence of a tower/towerhouse on the land may be indicative of more prosperous classes of society engaging in agricultural activity.

Simple rural sites

The term 'simple rural site' is used as a convenient definition for a type of rural site associated with farming, which has no evidence of a tower or agricultural installation. This is an adapted version of Foxhall's term 'isolated rural sites' which she adopts when discussing the ceramic material from farmsteads (2004, 252). The term 'isolated rural site' implies that farmsteads were remote and isolated in the landscape, which may not be the case; so the term 'simple rural sites' seems more fitting. Such farmsteads are the most ubiquitous in pedestrian landscape survey and are typified by small pottery scatters, evidence of roof tiles and a preponderance of ceramics which indicate domestic activity (Bintliff *et al.* 2007, 39). Often a large concentration of roof tiles is the principle indicator of such a site (Cavanagh *et al.* 2005, 292). Surveys may classify these sites as farmsteads, storage sheds, and seasonal occupation sites for farmers. The difficulty in ascertaining the function of such sites is due to the limited archaeological evidence associated with them. Unlike with towers and towerhouses, whose form goes some way to explain their function, evidence presented by simple rural sites is not suggestive of their agricultural role. Indeed, simple rural sites may have served all of the above-mentioned functions attributed to them depending on their location, region and relationship/connection with other sites. In short, therefore,

these sites are ubiquitous in most survey areas, and are the lasting reminders of rural human activity. Researchers have drawn conclusions about societal norms not only from the presence, but also from the absence, of simple rural sites in specific landscapes. For example, as mentioned in Chapter 2, the lack of simple rural sites during the Classical period in the Pylos survey is explained by the institution of Helots in Messenia, who as dependant labourers to the Spartans in Laconia did not have the freedom to construct such simple rural sites, and lived in hamlets or centralised areas of habitation (Alcock 2002, 197). The presence or absence of these sites is, of course, indicative of the societal norms, and population pressures in each territory, which each survey publication under discussion here goes into detail on. For the purpose of this research, in the following section, the archaeological evidence is examined with the aim of understanding how these sites facilitated agriculture.

Simple rural sites identified in landscape survey very rarely have evidence of visible structural remains, but excavations of these sites have revealed the nature of their structures. For example, a small rural structure found not far from the excavated Vari towerhouse was studied by Lauter (1980). The site is located on the border between arable land and the slopes of Mt. Hymettos, where it is ideally positioned to exploit both the lowland cultivatable soils and upland pastures for the grazing of animals. The small structure (Fig. 3.17 and Fig. 3.18) measures 139.7 m^2 and consists of two large rectangular rooms to the north and west, and a subdivided eastern room surrounding a courtyard space. The courtyard perhaps provided an additional work and living space for the occupants. The excavators also noted traces of an ancient enclosure wall running from the west of the structure towards the north, along with a possible compacted earth threshing floor. No roof tiles were found; suggesting that the structure was roofed with organic material or the tiles had been removed after the site was abandoned. Very little ceramic material was recovered, indicating that these too were removed after the site was abandoned. The existing ceramics are associated with the storage and consumption of foodstuffs, in that coarse ware sherds from amphorae and *pithoi* were noted, as were a few pieces of black glaze pottery dating from the second half of the fifth century BC. The archaeological evidence and the small scale of the structure suggest that this site may have been inhabited intermittently or a during single short occupation phase. Two similar simple rural sites were excavated in the Paximadhi Peninsula, Euboea (Keller and Wallace 1988). The excavators of site C-54 revealed a structure measuring 17 × 18 m consisting of four rooms and a courtyard, additionally they noted sections of an ancient wall in close proximity to the site, which may have been part of an enclosure connected to the farm. The similar structure C-38 (Fig. 3.19) located along an ancient stretch of road consisted of a building measuring 8.5 × 14 m with three rooms opening on to a courtyard (Keller and Wallace 1988, 153–154). The ceramics from the site includes black glaze pottery *kantharoi*, amphorae, *pithoi*, and a storage bin was identified *in situ* near the south wall of the north-western room (Keller and Wallace 1988, 154; Keller 1985, 89–90; Langridge-Noti 2004, 493). Thus, the ceramic evidence from this



Fig. 3.17: Ground plan of the house near Vari (after Lauter 1980).

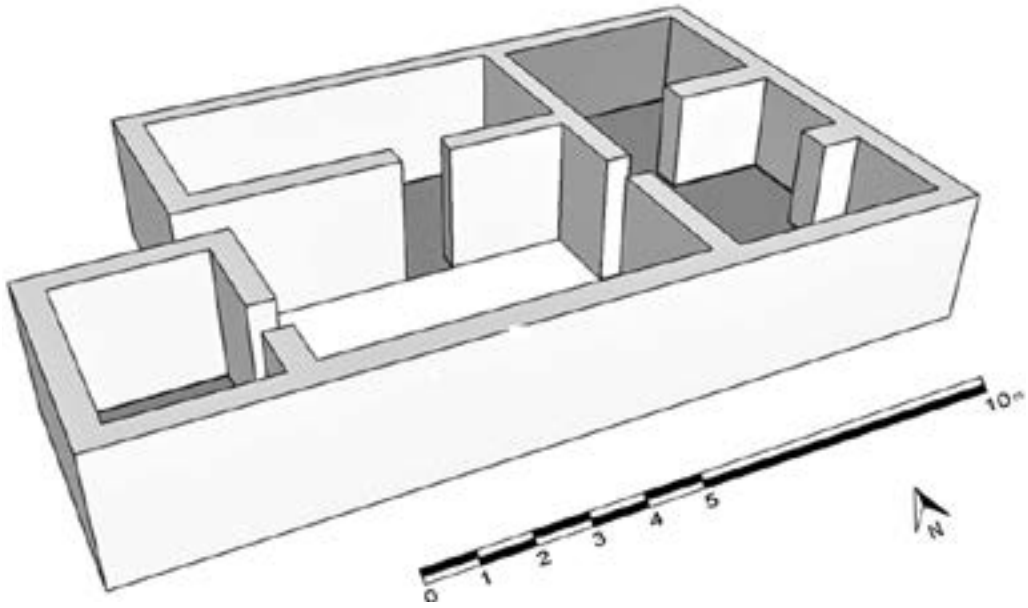


Fig. 3.18: Isometric reconstruction of the house near Vari.

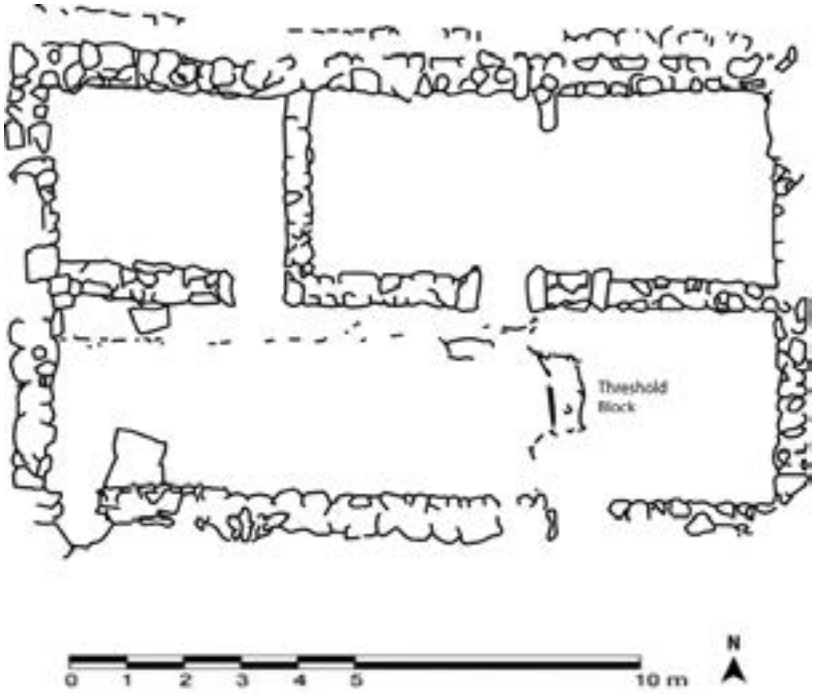


Fig. 3.19: Ground plan of site C-38, Paximadhi peninsula (after Keller and Wallace 1988, 153).

site fits well with the farmstead signature proposed in the beginning of this chapter. The examples from Vari and Karystos help to characterise the nature of simple rural sites in that they are often small structures with few rooms and the ceramic material is indicative of limited domestic activity. All three structures have evidence of food consumption and preparation, but the majority of the ceramics are storage related, therefore, it seems that they did support domestic activity, and storage at these sites was a priority for the occupant.

Rescue excavations carried out as a precursor to modern construction and road building has revealed numerous rural structures of various sizes and complexity throughout mainland Greece. For instance, the excavations carried out in Delpriza, in the southern Argolid revealed a large well-built structure, containing several rooms, along with a fourth–third century BC press bed, with a press weight *in situ* in one of the rooms (Kossyva 2011, 331). Additionally, 43 graves were found next to the structure, with varying wealth of the deceased represented in the grave goods, these graves, the excavators believe are indicative of a 'rural community of the Classical period' (Kossyva 2011, 354). This site, in particular the graves, are tangible evidence of the correlation between the longevity of domestic activity and agricultural production within simple rural sites. Lohmann has been a strong supporter of the theory that rural graves are indicators of habitation in the countryside (Lohmann 1992; cf. Osborne

1992a). The evidence from this farmstead, and the graves, certainly indicates that the landscape supported residence, agricultural production, and inhumation for those working the land. Similarly, the excavations connected with the construction of the international airport of Athens, at Spata (Steinhauer 1994), revealed a series of Classical farmsteads, boundary walls, and roads. Here, then, we have a similar 'built-up' rural landscape, possibly a hamlet of neighbouring farms, somewhat similar to the image we are presented with from Demosthenes 47, where neighbours and passers-by watch the assault on the plaintiff's property:

> The servants of the neighbors, hearing the tumult and seeing that my house was being pillaged, some of them called from the roofs of their own houses to the people passing by, and others went into the other street and seeing Hagnophilus passing by, bade him to come. Hagnophilus, when he came up, summoned by a servant of Anthemion, who is a neighbor of mine, did not enter the house (for he thought he ought not to do so in the absence of the master), but, standing on Anthemion's land, saw the furniture being carried off and Evergus and Theophemus coming out of the house. (47.60)

Indeed a search of *Archaeology in Greece Online,* a database of all excavations and surveys carried out in Greece and reported by the *Archaeological Reports* of the British School at Athens and the *Bulletin de Correspondance Hellénique* of the *École Française d'Athènes*, reveals numerous sites classified as farmsteads, ranging widely in date, throughout the Greek world. Beginning in south Attica, excavations as part of an extension to the *Attiki Odos* revealed two Classical funerary *periboloi*, a 'farm house' of similar date to the graves, and 'a series of pits and kilns' (ID 2263; Αρχαιολογικόν Δελτίον 56–59 (2001–2004)). The description of the site is brief, but the evidence suggests similar general activity, and different industrial activity, to the farmstead excavated at Delpriza. Moving to Achaea in the north Peloponnese, further rescue excavations revealed a Classical farmstead for which a ground plan could be reconstructed (ID 1580; Αρχαιολογικόν Δελτίον 55 [2000]). The artefacts from the site included storage *pithoi* with lead clamps, terracotta loom weights, 'good quality Classical pottery' and Laconian roof tile. The excavators believe the site was abandoned in the fourth century BC after an earthquake. Finally, the excavations connected to the building of a bypass at Edessa in northern Greece bear particular mention (ID 480; Chrysostomou 2006, 727–739). The excavations as part of the road building revealed several structures (including an unknown Byzantine monastery), but of importance here are the four Classical-Hellenistic farmsteads. Of the four farmsteads, the pottery from each of the sites was consistent with what we have seen before, with some fine and domestic ware, the presence of loom weights, and a greater number of storage wares – predominantly *pithoi*. Of particular interest is the presence of eight rock-cut cist tombs, dating from the Classical–early Hellenistic period, found in close proximity to the fourth farmstead. The burials represented both females, buried with vases and jewellery, and males, buried with spearheads, vases and, significantly, agricultural tools. Here then, as in Delpriza, the presence of these tools within the burial draws a direct link with those buried in the grave and the farmstead they are buried beside.

Turning to the evidence of simple rural sites in landscape survey, during the recent intensive survey of the territory of Sikyon, the survey team identified three categories of agricultural sites that supported habitation; 'farmsteads' supporting permanent or seasonal occupation; 'field buildings' when the ceramic evidence was not enough to prove occupation; and 'fieldhouses' for sites with low density scatters that possibly represent 'ephemeral shacks' (Lolos *et al.* 2011, 271). The survey team then has recognised a variation in the size and nature of the ceramic repertoire and, similarly to our approach, has assigned an agricultural role to the sites based on the nature of the material. A brief look at the nature of the sites from Sikyon and their material helps to highlight the variation in the types of site identified as having an agricultural role. Investigation of site HS-34 revealed the outline of a rectangular building, constructed of irregular trapezoidal blocks (Lolos *et al.* 2011, 315). The ceramic material recovered included roof tile, black glaze body sherds, *pithoi*, and a conical loom weight. Clearly then the assemblage from HS-34 resembles a domestic site, and although no structures were recorded at a further three sites (HS-5, HS-3, and HS-28) the similarities in the three ceramic classes in addition to the presence of other material, such as loom weights, implies that all four had similar domestic roles. As in other landscape surveys, some sites (HS-10, HS-22, and HS-37) in Sikyon only yielded *pithoi* and roof tile, which clearly indicates that they served a storage role rather than a domestic one for the farmer (Lolos *et al.* 2011, 317). The conclusions reached by the survey team, states that these trends reflects a range of uses for these sites from full-time occupation comparable with urban houses to seasonal/temporary storage sites.

In conclusion, this survey of the archaeological data throughout mainland Greece highlights that simple rural sites can, and are, found within and across several territories. Excavations help give great insight into the composition of such sites, and when, like Edessa, several are found in close proximity we can glean greater insight into how they related to each other. However, in order to understand how simple rural sites functioned together as part of the agricultural industry within the wider landscape, our best source of evidence comes from pedestrian landscape survey. There are a variety of site types, which can be classed as simple rural sites, and assigned an agricultural role in survey and excavation, and my goal in the following sections is to define clearly the variation in this site type before moving on to discuss how this variety aided agriculture in the countryside.

The criteria for farmsteads applied to simple rural sites

The 'farmstead signature' can help shed light on the activity farmsteads supported in the agricultural landscape. Of course, the identification of ceramic scatters, as indicative of farmsteads (as discussed in Chapter 1), is in no way secure. Nevertheless, simple rural sites, particularly in landscape survey, are often classed as farmsteads based on the nature (domestic) of the ceramic material. Therefore, in the process of first labelling simple rural sites, and then investigating their agricultural role, it

is important to consider the entirety of the material recovered. For farmsteads, and in particular simple rural sites, the corpus of archaeological data from pedestrian landscape survey is vast. Surveys throughout mainland Greece and the islands have catalogued and identified such sites as farmsteads based on their structural and ceramic evidence.

Simple rural sites in the Akte peninsula (Appendix Table 6)

In the Akte peninsula, 74 sites, identified as farmsteads in the survey, can be classed as simple rural sites. These were identified in the original survey as such by their small size, location on arable land, and ceramic evidence indicating storage and domestic activity. Taking a brief look at Appendix Table 6 it becomes clear that there is diversity in the quantities of sherds and types of material found at simple rural sites. Only 11 of the 74 sites yielded additional material such as lamps and weaving equipment. Therefore, 14.8% of simple rural sites have direct evidence of prolonged domestic activity. We can be certain then that these sites provided activity beyond intermittent visits and seasonal storage. Despite the relatively small number of such sites, the majority of simple rural sites (67%) have all three ceramic classes in addition to high sherd and roof tile counts. Therefore, although these sites might not have evidence of additional activity, they do clearly represent the characteristics that we have come to expect.

Taking a closer look at some examples, will help illustrate this point further. Akte SRS 19 (Fig. 3.20) had visible structural remains measuring 13 × 14.5 m, and the

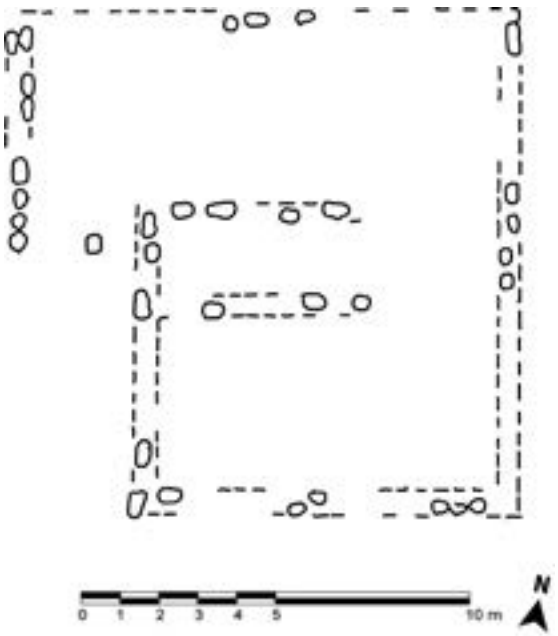


Fig. 3.20: Ground plan of site Akte SRS 19, Akte peninsula (after Jameson et al. *1994, 448).*

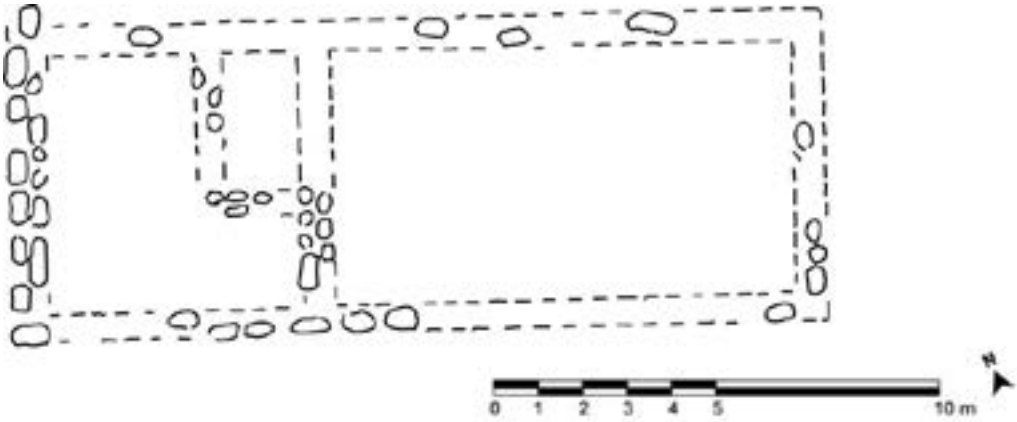


Fig. 3.21: Ground plan of site Akte SRS 54, Akte peninsula (after Jameson et al. *1994, 490).*

presence of tools for grinding grain and weaving cloth suggests that activity went beyond simple storage. But other than that, due to the limited ceramic evidence, there is little more we can say about the site. At Akte SRS 54 (Fig. 3.21) despite the presence of a structure, very few sherds were noted, and only around the structure itself, in contrast, at Akte SRS 58, located close to the ancient city of Hermione, a structure and ceramics were found that included 'a great variety of fine black glazed, jugs, cups, and lamps with many domestic coarse wares' (Jameson *et al.* 1994, 494). The presence of a structure, along with ceramics associated with food preparation and consumption, suggests that Akte SRS 58 supported longer periods of activity and the presence of lamps, appears to confirm this conclusion. Also, a visible structure at Akte SRS 17 measuring 10 × 18 m along with the three ceramic classes, tools for grinding grain, keeping bees, and textile production, strongly indicate that Akte SRS 17 served as place for both production and occupation for its inhabitants. Similar conclusions can also be reached concerning Akte SRS 53, which produced the second highest sherd count of all the simple rural sites in the Akte peninsula including the full complement of ceramic classes, and additional evidence for the weaving of textiles. In this case then the absence of a visible structure at the site does not hinder its identification as an area which supported at the very least communal activities, which of course implies there was once a structure. The remainder of the site have evidence of one or two ceramic classes, which mostly consist of storage ware paired with either fine or domestic ceramics. Akte SRS 9 is representative of such a site, the presence of predominately storage ware implies that its primary role was the storage of produce with a secondary domestic function. And finally, Akte SRS 41, provided evidence of storage ware and a fragment of a grinding tool, here then, it is clear that large-scale storage of goods occurred, possibly relating to either domestic occupation or the storage of agricultural produce. Since there is a lack of ceramics from the other classes, however, it seems that it did not support domestic activity similar to other farmsteads within the survey area. Nevertheless, this does

not diminish the importance of the site since the presence of *pithos* fragments with the material assemblages imply that large-scale storage of material was happening; this in turn confirms that there was a continued activity on the site. Based on these examples, we are able to identify variations with the simple rural site class, ranging from those, which are somewhat comparable to urban domestic houses all the way to sites, which are similar to storage sheds/seasonal structures. In the Akte peninsula, then, there is a pattern in the variation in the types and quantities of ceramics, which is undoubtedly related to their agricultural/domestic roles. In the following section, their role will be teased out further. For now, however, it is worthwhile investigating data from other survey areas to build upon these conclusions.

Simple rural sites in the Methana peninsula (Appendix Table 11)

On Methana, 20 sites identified as farmsteads by the survey team can be classed as simple rural sites. As Appendix Table 11 illustrates, there is less variation in the types of additional material found in comparison to simple rural sites in the Akte peninsula. Of the nine sites, which have all three ceramic classes, only three yielded evidence for weaving. Additionally, only five sites have structural remains, and unlike the Akte peninsula, it is not possible to reconstruct their ground plans, instead evidence of structures in the landscape is often based on the presence of cut blocks as indicators of ancient walls. This evidence indicates that these sites supported less permanency on the land, in comparison to Aktean simple rural sites. The surveyors noted this trend in the seasonality of Methana rural agricultural sites, and concluded that for a brief period rural sites supported occupation, but overall residence was focused at Methana, Magoula, and Oga (Gill *et al.* 1997, 65–68). It is clear then that the nature of these sites reflect different socio-economic realities which underpin the use of farmsteads, but that does not diminish the importance of Methana's simple rural sites within the network of farmsteads facilitating agricultural industry. It is worthwhile here to investigate further the nature of Methana's simple rural sites. Methana SRS 1 and SRS 10 are two sites with evidence of structures and both produced the full complement of ceramic material. Importantly, the presence of *sympotic* vessels and loom weights demonstrate that both sites supported domestic activity including the preparation and consumption of foodstuffs, in addition to other social activity beyond subsistence. However, the lack of large-scale storage vessels (*pithoi*) implies that they did not support the long-term storage of supplies. Methana SRS 1 and SRS 10 then, may reflect seasonal bases for farmers rather than full-time residences. In contrast, the investigation of Methana SRS 12 revealed a bottle shaped cistern, used for the storage of grain, (Mee *et al.* 1997, 172). The presence of the cistern, and the long-term storage of foodstuffs, may at the very least, imply extended periods of occupation. Furthermore, several farmsteads yielded evidence of storage ware, along with ceramics that were, for the most part, associated exclusively with the preparation and consumption of food. For example, Methana SRS 6 and SRS 3 produced evidence of fine ware, which included a red figure *krater,* and some cooking wares, however, the limited amount of material from these two sites

makes it difficult to assign a definitive domestic role, and consequently, they are best described as seasonal or temporary. Overall, the ceramic evidence from simple rural sites is not indicative of permanent residence. Finally, based on the datable ceramics, most simple rural sites appear to have been in use for short periods of time. Secondly, the lack of large-scale storage (*pithoi* and/or cisterns) suggests that fewer farms than the Akte peninsula facilitated the long-term storage of supplies, and therefore, longer term occupation. As a result, the nature of the ceramic material reflects the wider social organisation of the peninsula. Namely, that the majority of the sites were seasonal or temporary in the landscape to facilitate agricultural production, but that overall, occupation was located in the larger urban centres.

Simple rural sites in the Atene survey, Attica (Appendix Table 2)

As the table illustrates 23 sites identified in the original survey are classed as simple rural sites. Nearly half of these sites have the full complement of the three ceramic classes. In addition to ceramics, the survey also recorded the presence of a high number of beehives and terraces. Unique to the Atene survey is the extent of visible structural remains, not only for towers, but also for smaller manifestations of agricultural sites. In the survey report, the site class '*gehöft*' is comparable to the classification of 'simple rural site' in the typology proposed here. In the previous surveys the evidence presented for these sites, as the name implies, reflect basic domestic activity, with little indication of elite social practices, which one associates with urban houses. However, we have already seen at Atene Tower 5 the presence of an *andron* at the site suggests that it hosted social activity beyond what is required for a simple domestic lifestyle. This appears to be the situation for Atene's simple rural sites also. In the case of Atene SRS 12, it is considerably larger than what we would expect of a simple rural site, and in addition, the presence of an *andron* (with red plastered walls) points to the use of the site as a centre for social interactions beyond subsistence (Lohmann 1993, 166). It is clear, from the evidence of numerous structures in the landscape, that the social and residential organisation of Atene was complex. However not all sites provide such indications of elite social activity, such as, Atene SRS 20 which has a large structure measuring 14.15 × 29.9 m with two courtyard spaces (Lohmann 1993, 169). However, only one late Archaic sherd was collected from the site, and there is very little indication about when and the duration of the site's use. Smaller sites too were identified and ground plans mapped, for instance, the site Atene SRS 23 consists of a narrow rectangular living space measuring 4.5 × 3.1 m with a larger open courtyard to the southwest. The ceramics from the site indicate it was used seasonally, and its primary role was storage. Smaller more 'humble' sites such as Atene SRS 10 reveal evidence of walls and roof tile, along with storage ware and beehives. Equally smaller sites such as Atene SRS 1 and Atene SRS 4 yielded very few sherds, and no roof tile (Lohmann 1993, 176–178). Lohmann's reconstruction of the Atene landscape incorporates ancient roads, terraces, and large substantial structures, which indicate that these sites were permanent dwellings. In addition,

they have clearly distinct areas for residential and economic activities as evidenced by the presence of two courtyards, or additional secondary structures. That is not to say, however, that they are large and multi-roomed. Instead, the main residential areas of the sites served as sleeping, eating and living quarters for those working the land (Lohmann 1993, 184–185, 187). Therefore, the evidence from Atene, particularly the abundance of visible structures representing varying degrees of socio-economic wealth, provides a unique insight into the agricultural and residential nature of an individual landscape.

Single farmsteads in the Eurotas valley survey, Laconia (Appendix Table 4)

For the survey the identification of 'single farmsteads', is based on the presence of roof tiles and all or some of the functional categories of ceramics including fine, domestic, and storage ware (Catling 2002, 191). Thirty-eight such 'single farmsteads' are considered here. Similar to the Akte and Methana surveys, a number of sites (28%) yielded additional material in the form of loom weights and additional food preparation tools. Concerning the nature of the ceramic material, the surveyors comment that 'of the archaic and classical pottery ... so too for the Hellenistic and Roman periods the homogeneity of ceramic assemblages is striking. Only in a few cases do we seem to be dealing with non-habitation sites' (Shipley 2002, 273). Therefore, a few examples of the types of material from these simple rural sites are sufficient. In addition, the sites discussed here were originally recorded in the Eurotas valley survey and revisited later during the Laconia Rural Sites Project (LRSP). The LRSP used a series of non-invasive techniques to investigate further sites of interest, including a total collection of artefacts, geophysical survey and chemical analysis of soils (Cavanagh *et al.* 2005, 1). In addition to the location of these single farmsteads on low sloping ground (Table 3.3) all four sites yielded a good range of ceramic types and other material.

Laconia SRS 31 yielded approximately 279 sherd fragments and roof tiles during the original survey and the LRSP revisit (Cavanagh *et al.* 2005, 139–141). The LRSP also noted definite concentrations of *pithoi* and cooking wares within separate areas of the site, which suggest that these areas were primarily used for storage and cooking. This evidence led the team to conclude that there may have been originally two structures, or, alternatively, a farm and an annexe (Cavanagh *et al.* 2005, 148). In addition to the number of structures, the presence of the three classes of ceramics,

Table 3.3: Slope position and size of Classical-Hellenistic sites studied in the LRSP

Site number	*Slope*	*Size (ha)*
Laconia SRS 31	11°	0.20
Laconia SRS 24	3°	0.01
Laconia SRS 17	10°	0.08
Laconia SRS 35	8°	0.03
Laconia SRS 27	5°	0.05

loom weights and the concentration of roof tiles suggests that this farmstead perhaps supported full-time human occupation. At Laconia SRS 27, the LRSP team identified a dense concentration of ceramic material. They collected a further 245 sherds than the original survey (Cavanagh *et al.* 2005, 176). The quantity and types of ceramics reflect trends we have already seen in the Akte and Methana surveys, in that these sites clearly supported domestic activity.

For sites with limited ceramic material, such as at Laconia SRS 24, the sherds point to a Classical date, but this is not conclusive. Furthermore, the team suggested that because of the lack of fine black glaze ware Laconia SRS 24 was some sort of storage building rather than a farmstead with the full range of activities. Equally the limited number of sherds collected (relative to other sites) from Laconia SRS 35 led the team to suggest that it was either badly eroded or had a single occupation phase and use (Cavanagh *et al.* 2005, 150, 154, 172). In the case of these four examples, we can see similar types of activities, which have been noted in the other survey areas. The repetition of this evidence throughout survey areas clearly illustrates that some farms supported habitation in the countryside, while others may have served as areas for storage. Although most farmsteads had storage ware, as in Methana, very little evidence of large-scale storage was noted. Therefore, during the survey of the Eurotas valley the surveyors concluded that the lack of storage ware on some sites might imply that the farmers/owners/inhabitants stored their produce in Sparta, Sellasia, and the Spartan fort at Agios Konstantinos. The difference in storage material implies that some small single farmsteads in this area were not capable of being self-sufficient. However, it is possible that all farmsteads supported domestic or some other type of activity regardless of the evidence for storage (Catling 2002, 195–196). This point highlights how these smaller farms related to second order sites such as Sellasia. In the following chapter, I discuss further the relationship between farmsteads and other settlement types, with the aim of reconstructing the ancient agricultural landscape. The intensive study of the material, particularly by the Laconia Rural Sites Project, highlighted that variations in ceramics at single farmsteads, suggests trends in occupation similar to those of the Akte peninsula, in that the ceramic evidence from some single farmsteads suggest longer-term domestic activity, while others, which have a limited ceramic repertoire, may only have supported seasonal activity, or been used for specific storage needs.

The truly intensive and in-depth analysis of the farmsteads in the Eurotas valley survey presents interesting results concerning the social and economic importance of agriculture. The site classification put forward approached the role of farmsteads from the perspective of the wealth of the farmer and his economic objectives. By classifying sites based on the evidence of prosperity, it provides a further insight into the socio-economic factors, which underpin agricultural industry in the survey area. This is particularly relevant for the complicated nature of land ownership and the status (helot, Spartiate, or *perioikoi*) of those actually farming the land in Laconia. These issues have been discussed at length in modern scholarship (e.g. see Shipley 1992, 211–226; Cartledge 2002b, 138–168). The purpose of the discussion

in this monograph has been to examine how farmsteads facilitated agricultural industry. While the hierarchical site typology put forward by the survey team helped identify differences in prosperity at farmsteads that may suggest different economic objectives, it lacks nuance concerning how agricultural industry was realised by those working the land; the scarce evidence for agricultural installations found within the survey area did of course not help this. Other surveys, too, such as Eretria, Karystos, Corinthia, Boeotia, Berbati-Limnes, Pylos Regional Archaeological Project, Thesprotia, Oropus, and Megalopolis Project, to name those on the mainland only, classify small sites with the 'farmstead signature' including roof tile, storage ware and/or fine and domestic ware as farmsteads. As Stewart has already written, farmsteads are *the* most itinerant of site classes. Yet, despite the continuous identification of sites with this signature in the landscape, the problems of their identification and their role in agriculture persist. This crucial chapter then has shown that the data from sites identified as farmsteads is not uniform within and across survey areas, with that in mind the purpose of the following section is to understand how the archaeology of these sites informs us of their agricultural role.

Agricultural role of simple rural sites

The evidence discussed above suggests that there is variation in the quality and quantity of ceramics found at simple rural sites, which is indicative of different types of activities. It has become clear now in this chapter that the ceramic evidence plays a key role in identifying if a site had a domestic, storage, and/or processing role, or combination of all three. The ceramic material from all the survey areas shows that some simple rural sites have the three ceramic functional categories, implying activity similar to that found in urban domestic contexts took place there. It is worthwhile here to explore what this conclusion means for occupation in the landscape. Foxhall writes that there was a settlement hierarchy between the urban *polis* and the rural hinterland, and that 'there are discernible significant internal differences in ceramic assemblages along what one might call an "urban-rural" continuum' (2004, 266). This suggests that urban and rural sites represent a continuum, with the preference of permanent residence and activity in urban centres that gradually diminishes in the countryside. She explains that the presence of black glaze fine ware at these sites is not a social status indicator, as figured pottery is within urban domestic houses (Foxhall 2004, 260). Therefore, farmsteads did not provide the similar spaces for social interactions as their urban counterparts, since the material from these sites, largely, is incomparable with urban *sympotic* assemblages. Nevertheless, it is instead probable that rural sites could be centres for communal drinking and food consumption within the family unit or wider community. These gatherings would not have the same social connotations as the urban *symposium,* but the presence of fine ware suggests that informal gatherings took place at farmsteads (Kathleen Lynch pers. comm.).

Of course, the quantitative differences between ceramic materials collected in landscape survey could be indicative of the nature of the archaeological survey

and the taphonomic and geomorphological conditions on a particular site. But the practise of revisiting of sites, as done during the LRSP, helps put to bed any issues regarding the accuracy of sherd counts and the nature of the site. Thus it is evident that farmsteads identified in survey do have a ceramic signature, which may be indicative of their role. Instead of Foxhall's urban-rural continuum, I suggest a 'rural sites continuum' based on the ceramic material from farmsteads. In doing so we can identify variations in the activity at rural sites ranging from that comparable to urban domestic contexts to seasonal activity and occupation. By placing farmsteads on an occupation continuum ranging from year-round, on the one hand, to single-use on the other, it is possible to understand further how simple rural sites could have been, and were, used by those inhabiting and working the land. Therefore, the presence of all the ceramic classes and of other objects such as loom weights, lamps, grinders/food preparation equipment, etc., suggests the farmstead supported year-round activity and occupation, and others which have less regular activity of more specialised roles, such as processing centres, could be considered seasonal farmsteads, *spitakia,* or single use sites. Figure 3.22 further illustrates this point.

As Figure 3.22 illustrates, a variety of farmsteads with different roles were operational in the landscape at any one time. The graph indicates that part of this continuum of activity was seasonal occupation of the site. The seasonality of occupation at farmsteads is a contentious issue, and in very basic terms, these 'seasonal sites' may have supported activity in accordance with the agricultural year; but activity at farmsteads might be better understood as 'periodic'– that is, activity was 'happening on a regular basis, but not necessarily in direct connection with a "natural" cycle' (Foxhall 2000, 496). Therefore, for the purposes of this analysis, I apply the term seasonal in association with the agricultural calendar, while acknowledging the possibility that farmsteads could (and most probably did) support activity which was not directly associated with agricultural seasons. Finally, it is important to highlight

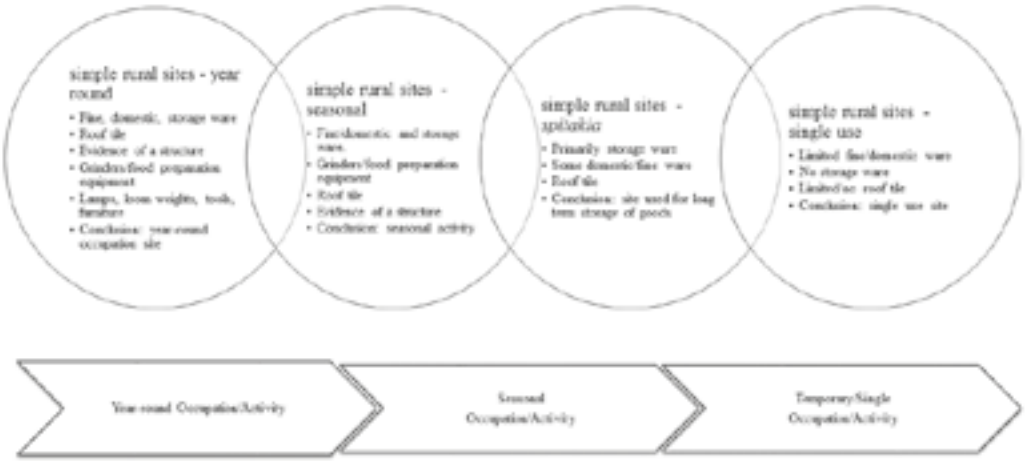


Fig. 3.22: Continuum of simple rural sites.

that any direct evidence of agricultural industry does not define simple rural sites; instead, they indicate human activity in the countryside including the processing and consumption of food presumably by those working the land, travelling out to fields and working at processing centres. Therefore, we can only fully understand this farmstead type by examining their context in relation to installations, as well as to towers and towerhouses.

Agricultural installations

The archaeological evidence that defines installations consists of the presence of one or more of the following: threshing floor, *trapetum,* and lever press. Handheld and movable agricultural tools such as grinders, sickles, pruning hooks and ploughs are not considered in the same light because they cannot indicate permanency of a site for agricultural processing. Such objects, where they occur, may rather be considered as part of the criteria for identifying an agricultural purpose for the site in more general terms. Although there is significant textual, iconographic, and some paleobotanical evidence, which indicates that the ancient Greeks also grew legumes, beans, other pulses, nuts and a selection of different fruit, there is little remaining direct archaeological evidence for their processing (although in some instances a secondary use of the equipment discussed here could have included the processing of some of these crops) (Curtis 2008). Finally, it should be pointed out that the installations that will be included in the discussion that follows are only those that are found at sites dating from the periods of interest in this book.

A threshing floor (Fig. 3.23) is a circular area of ground with either a paved or a compacted earth floor, which facilitates the threshing of grain carried out by humans or animals (Amouretti 1986, 71). The presence of threshing floors implies that the site served for the processing of cereals. By and large, ancient threshing floors are impossible to identify by archaeological means because there is nothing to distinguish the floor as ancient, instead we are reliant on the context of the site, and its proximity to ancient structures (Whitelaw 1994, 170). It is probable, furthermore, that a number



Fig. 3.23: Abandoned threshing floor in the Eurotas valley, Laconia (photograph by the author).

of ancient threshing floors were reused and remodelled in later time periods, which makes them difficult to distinguish from the later structures (Whittaker 2000, 66–68). Nevertheless, some threshing floors can be identified as ancient because of the nature of their construction and/or their context – for example, the threshing floors that, along with agricultural terraces, were connected to ancient farms in Attica and Euboea (Lohmann 1992, 41–43; Keller and Wallace 1988, 154). Some ancient threshing floors have been identified through archaeological investigations, such as those found at the Princess Tower where Young describes a paved circular twenty meter platform surrounded by a low row of stones as an ancient threshing floor (1956, 124). Similarly, a series of threshing floors were noted in the Atene survey close to ancient tower complexes. For example, at the fourth century BC farm at Palia Kopraisia, Lohmann identified two twenty-two meter threshing floors. The presence of such large threshing floors in association with a tower complex may be indicative of an estate of the wealthy elite such as Phainippos' farm described in Demosthenes 42 (Lohmann 1992, 48). But, the above examples are the exception and, in general, it is nearly impossible to identify and accurately date a threshing floor without the support of an ancient context or ancient site in the vicinity (Isager and Skydsgaard 1995, 53–55).

A *trapetum* is a large stone bowl (mortar) in which one or two circular stones (orbis) are rotated (Fig. 3.24). The rotating stones crush olives and grapes to make them suitable for pressing (Amouretti 1986, 165; Brun 2004, 9–12; Foxhall 2007, 134). The earliest example of a *trapetum* comes from Chios and dates to the fifth century BC (Boardman 1958/9, 304–305; Foxhall 2007, 170–171). They have been found in urban settings at Argolis, Vrasna, Halieis, and Olynthus dating between the fifth–third centuries BC (Bonias and Perreault 1993 & 1997; Isager and Skydsgaard 1995, 60–62; Cahill 2002, 242; Touchais *et al.* 2000; Foxhall 2007, 167–168). *Trapeta* were also located in the open countryside, but very few of these have come to light. Fragments of a crushing stone found at Methana Installation 1 (the acropolis of Oga) which can be securely dated to the Classical-Hellenistic period, and two columns from mortars were found at sites Atene Installation 1 and Atene Installation 2 in Atene (Foxhall 2007, 173–176; see Lohmann 1993, 495, 511). But the probability of finding these types of objects *in situ* in the countryside is quite slim, as they have a high value as reused objects such as building materials, animal troughs, and clothes washing basins. The lack of evidence for more *trapeta*, and the fact that other means of crushing olives were used, indicates that 'the scale of olive processing was relatively small and the degree of specialisation of processing installations considerably limited before the later Hellenistic and Roman periods in the Greek world' (Foxhall 2007, 177). Therefore, the presence of a Classical-Hellenistic period *trapeta* found in excavation and survey suggests that the agricultural industry at the site had a high degree of specialisation.

A lever press consists of a press weight block, lever beam, and wall/boulder to hold the beam and press bed (as shown in Fig. 3.25). The fruit was first crushed using a *trapetum,* grinding stone, or other makeshift implement, and then placed in sacks on top of the press bed. The lever press worked by drawing the beam down (using



Fig. 3.24: Reconstruction of a Classical trapetum *(photograph by the author).*

weights or winch) over the pulp of the fruit. The liquid was then drained into a ceramic container or shallow well in the cement floor. We know that these installations were used in rural farms since parts of lever presses were listed for sale from confiscated farm properties on the Attic Stelae *IG* I³ 425.4–14 (Foxhall 2007, 205–208). Press beds, boulders with beam holes, and weight blocks are often the only remaining evidence for presses found as archaeological materials, for example press beds were found in the countryside during extensive survey of Eretria's territory (Fachard 2012). Although it is not possible to date beam holes, press beds and weight blocks can be dated based on their design. For example, the presence of the weight block Type 41 can date the functional life of the press to the Classical - Hellenistic period (Brun 2004, 17). The presence of such an object in combination with any associated ceramics can help draw conclusions about the general role of the site for agricultural industry, occupation, and domestic activity, as we shall see below.

Like *trapeta*, examples of lever presses have been found both in urban (Halieis and in Olynthus) and rural settings (Ault 1999, 560; Foxhall 2007, 143–148). The highest number of datable examples of installations comes from the surveys carried out on the Methana and Akte peninsulas. For instance, rubble foundations of a rectangular



Fig. 3.25: Reconstruction of a Classical-Hellenistic lever press (photograph by the author).

structure were noted at Akte Installation 1 in the southern part of the Akte peninsula. A pressing installation found on the site consisted of an *in situ* ceramic basin sunk into a cement floor, along with plastered walls and a rim of a press bed (Jameson *et al.* 1994, 434). From the description, it can be deduced that the press installation was somewhat similar to that found in House D at Halieis (Ault 1999, 560–561). In that both instances the room is designed (sunken floor) and decorated (water-resistant plaster) to accommodate the lever press. In contrast, at Akte Installation 10, located to the east of the Akte peninsula, the survey team found a weight block in the proximity of a small number of storage sherds, which suggests that lever press was not housed within a structure. Therefore, like *trapetum,* lever presses too, are found within rural and urban settings.

In conclusion, it is important to consider that additional means of facilitating the crushing and pressing of olives could have been employed, particularly in smaller operations. Organic material such as wood, rope, and baskets, which surely were integral tools in the processing of agricultural produce, are invisible in the archaeological record. As such, a variety of pressing tools must remain unidentified. Archaeological survey, therefore, can reveal a representative proportion of the types

of site, which support agricultural processing along with an incomplete assemblage/inventory of the tools employed at such sites. Nevertheless, the evidence from landscape surveys provides invaluable insight into the nature and scale of rural agricultural processing.

The criteria for farmsteads applied to installations

The focus of this section will be the archaeological evidence from the Akte and Methana peninsulas, as these two survey areas recorded the largest number of agricultural installations for the processing of olive and vine crops. Regarding threshing floors, the Atene survey (Appendix Table 3), reported a high number of threshing floors in relation to farmsteads. However, no threshing floors datable to the Classical-Hellenistic period have been identified in Akte and Methana survey areas. As discussed above, threshing floors cannot be easily identified in the open countryside, although they must have been located there too, as they are in modern times.

Installations in the Akte peninsula (Appendix Table 7)

In the Akte peninsula, the survey identified 20 installations, seven of which were found within second order sites throughout the peninsula. The presence of installations within an 'urban' environment, help highlight the agricultural connectivity between the towns/villages and the countryside. I investigate how these connections manifest themselves in the following chapter, but for now, it is worthwhile to investigate the 13 rural installations, connected to the processing of olives dating to the Classical-Hellenistic period. From the previous section, it is clear that the characteristics of simple rural sites represented a continuum of activity from full scale habitation to single use sites. In comparison, the characteristics of installations, as illustrated in Appendix Table 7, it seems that sites fall within two categories, those with high ceramic counts, and those with little or no ceramics. This implies that unlike the variety in simple rural sites, there are two distinct installation types in the Akte. With regard to the sites themselves, a brief review of the finds from these sites is sufficient to give an impression of the characteristics of an Aktean installation. For example at Akte Installation 3 the foundations of a rectangular structure 13 × 12 m were identified surrounded with a 'dense scatter of sherds and roof tile' (Jameson *et al.* 1994, 434). A spout of a press bed was found within this structure, and the surveyors note that many amphorae were also found. Here then we have a pressing installation within a roofed structure, and the presence of amphorae suggests that produce was transported to and from the site. In comparison to Akte Installation 10 a weight block of an olive press was found, along with a few storage sherds, beside a 22 m long ancient wall (Jameson *et al.* 1994, 490). The lack of ceramics at Akte Installation 10 suggests that the site had a purely industrial role in contrast to Akte Installation 3 which served the dual function of occupation and agricultural processing. Further installations in the Akte peninsula repeat this pattern, Akte Installation 7 had a visible structure measuring 11 × 15 m and in addition to the three ceramic classes, a terracotta

figurine, iron, possibly from furniture, and five millstones from hopper-rubber mills were collected. The material gives a strong indication of its agricultural role, and its use as a domestic space. Similarly, both Akte Installation 20 and Akte Installation 6 produced a higher quantity of ceramic material, particularly storage ware. In the case of Akte Installations 7, 20, and 6, it seems that there was permanency in the storage of produce and activity comparable to simple rural sites, discussed above. Therefore, the presence of structures and evidence of ceramic material beyond what is needed for the processing of crops suggests that these installations supported domestic activity and agricultural industry.

As for the distribution of installations, this appears to be even throughout the Akte peninsula, and in most cases, they are located close to farmsteads of the other classes, particularly simple rural sites. This proximity to other site types may explain the absence of ceramics at certain installations. For example, installations Akte Installation 10, 4, and 12 may be lacking the ceramic material to qualify them as self-sufficient, but to a certain extent, their location suggests that they may have been associated with simple rural sites in close proximity. For instance, it is reasonable to consider that persons occupying simple rural sites were employing the olive press at Akte Installation 10. In contrast, installations which appear to be more isolated from other farmstead classes, such as Akte Installation 14, 3, and 1, have evidence for structures and three ceramic classes. The classes of ceramics in most of the installations are consistent with those collected at simple rural sites, which suggest similar domestic activities. Therefore, in the case of the Akte peninsula, the results of this analysis clarify the role of installation sites, in some instances installations (sometimes more isolated) are part of sites, which also supported residence, whereas other sites with little to no ceramics, may have been utilised by one or more of the nearby simple rural sites.

Installations in the Methana peninsula (Appendix Table 12)

The Methana survey reported the second highest number of press installations after the Akte survey. The installations from Methana (Appendix Table 12) illustrate, as with the Akte, that some of these sites supported domestic as well as agricultural activity, whereas some others appear to have a single industrial role. Unlike the Akte however, the reduced ceramic counts at sites with the three ceramic classes reflect residential trends in Methana, in that installations supported seasonal/temporary residence, rather than full-time occupation. The three sites (Methana Installation 3, 5, and 8) have no visible evidence of structures but have the full complement of ceramic classes. At Methana Installation 3, located on the northeast coast of the peninsula on the route between Oga and Magoula, a press bed and boulder (with a beam hole cut into it) were found located away from the main ceramic scatter. The evidence from Methana Installation 3 indicates that the installation supported domestic activity and that the agricultural production was carried out away from the main centre of occupation. Equally, there is evidence of domestic activity in the

cooking and consumption of food at Methana Installation 5, and the presence of a large scale processing operation at the site, makes its agricultural role undeniable. In both these sites then, they served dual industrial and domestic roles. However, Methana Installation 7 differs in that it has strong evidence for the processing of agricultural crops; however, the ceramics have less variation in their assemblage. This suggests that consumption of food might have happened, but it does not appear that the site served a fuller domestic role. Therefore, the presence of a hopper-rubber mill is probably more associated with the crushing of olives for the press rather than the preparation of foodstuffs. Finally, Methana Installation 8 is indicative of a large-scale industrial centre with the presence of eight *patitiria* (wine presses), a press weight, a block with hole for beam, and six press beds. Foxhall dates the site as a Classical installation but it is unclear which of the pressing installations discovered dates to this period (Foxhall 1997, 266). The ceramic evidence suggests that the food was prepared and consumed here, but no further materials were found, implying that the site had a functional rather than residential role. In conclusion, the distribution of installations within Methana appears to follow the same pattern as simple rural sites, in that they are scattered along the routes encircling the peninsula. But there is also a cluster of installations within the interior of the peninsula. Foxhall writes in her analysis of Methana's agricultural installations that many of the sites are located in areas considered good for vine cultivation, particularly the small volcanic basins in the centre of the peninsula (1997, 263). Therefore, it is highly likely that installations are located close to the crops the farmers were growing. This denotes a different approach to the location of installations on Methana in comparison to the Akte. Whereas in the Akte peninsula, installations seemed to be located within domestic contexts or close to domestic sites, in Methana, overall, they are located away from sites for occupation and close to the farmed land. Furthermore, unlike the Akte peninsula where both simple rural sites and installations had evidence of *pithoi,* there is limited evidence of large-scale storage at installations in the Methana peninsula. Usually, installations, which have evidence for pithoi, indicate the longer-term storing of goods. This may suggest that agricultural produce was stored at the site, however in Methana; the preponderance of amphorae implies that the majority of produce was transported from processing centres rather than stored there. The limited evidence suggests that simple rural sites and installations may not have been as agriculturally connected as they were in the Akte, and that installations were probably independent entities from simple rural sites, which resulted in the centralising of pressing installations on main routes and agriculturally good land.

Agricultural role of installations

In terms of installations we can identify variations in the activity based on the ceramic evidence. Whitelaw noted similar trends in the positioning and characteristics of installations on Keos. He argues, in relation to agricultural installations dating to the early twentieth century, that small open presses are likely to have been used for

small-scale production and household consumption, whereas enclosed presses are likely associated with larger scale production and serving a larger number of fields (1991, 445). Therefore, it makes sense that installations serving several households were positioned on common ground and accessible from different parts of the landscape. In addition, due to the nature of installations, it would be necessary for them to be accessible not only from other farmstead types but also from urban centres. Taking the example of installations found in Methana (Table 3.4), all sites are located on lesser sloping ground and are small in size. As the table illustrates, the majority of installations correspond to the first two criteria for what can be considered a farm. As already mentioned, the variation in quantities and types of ceramic material from simple rural sites might indicate differences in their role and occupation. Correspondingly, variations in ceramic material and the context of installations may reflect different levels of activity.

To explore this further, for example, Table 3.5 lists the number of installations with each ceramic class in the Akte and Methana peninsulas, and Figure 3.26 illustrates the number of sites in the two regions and their ceramic classes.

The graph (Fig. 3.26) clearly illustrates that the majority of installations in the Akte and Methana peninsulas have all three ceramic classes, three installations have evidence of domestic and storage ware, one installation each has both fine and domestic or fine and storage ware, and two have storage or domestic ware respectively. One site is placed outside the Venn diagram since no sherds were identified. None of the installations has evidence of fine ware alone, possibly suggesting that the formal consumption of food and drink did not happen regularly, if at all. The installations, such as Methana Installation 5 and Akte Installation 1 that have all the three ceramic classes tend to have high sherd counts, evidence of roof

Table 3.4: Slope and size of installation sites from the Methana survey

Site name	*Slope*	*Size*
Methana Installation 1 (Oga)	6–18°	61,500 m^2 (6.15 ha)
Methana Installation 2	2°	1018 m^2 (0.1018 ha)
Methana Installation 3	6°	25 m^2 (0.0025 ha)
Methana Installation 4	13°	3850 m^2 (0.385 ha)
Methana Installation 5	13°	707 m^2 (0.0707 ha)
Methana Installation 6	8°	805 m^2 (0.0805 ha)
Methana Installation 7	15°	380 m^2 (0.038 ha)
Methana Installation 8	26°	2000 m^2 (estimated) (0.2 ha)
Methana Installation 9	7°	80 m^2 (0.008 ha)
Methana Installation 10	16°	114 m^2 (0.0114 ha)
Methana Installation 11	8°	2291 m^2 (0.2291 ha)

tiles and other objects indicative of domestic activity, in addition to their agricultural installations, whereas other installations have a limited amount of variation in their ceramic assemblages. I have already discussed Methana Installation 8, which has considerable evidence for agricultural industry, with very little indication of a domestic role; therefore, it is highly likely this installation serviced several households. Communal pressing installations, however, do not necessarily have to be on such a large scale as Methana Installation 8. Very few sherds were collected at Methana Installation 4, but there are visible remains of a structure dated to the Classical-Hellenistic period with a threshold block *in situ* (Mee *et al.* 1997, 151). Associated with the structure fragments of a crushing stone from a *trapetum* were found, which confirms the installation's agricultural role, in particular, the remains of the *trapetum* and structure suggest that considerable investment had been made at the site. It is possible to trace similar trends in the installations of the Akte peninsula. At Akte Installation 11, very few ceramics were collected but a stone press bed was identified within 'traces of rubble walls, [... and] a hole in a boulder to support a press beam were also noted' (Jameson *et al.* 1994, 492–493). Based on this evidence, like the installations in Methana, this site perhaps serviced several farmsteads.

Table 3.5: Number of sites with each ceramic class from the Akte and Methana surveys

Site Count	*Ceramic class*
13	Fine, domestic, storage
3	Domestic and storage
1	Fine and storage
1	Fine and domestic
1	Storage
1	Domestic
1	none

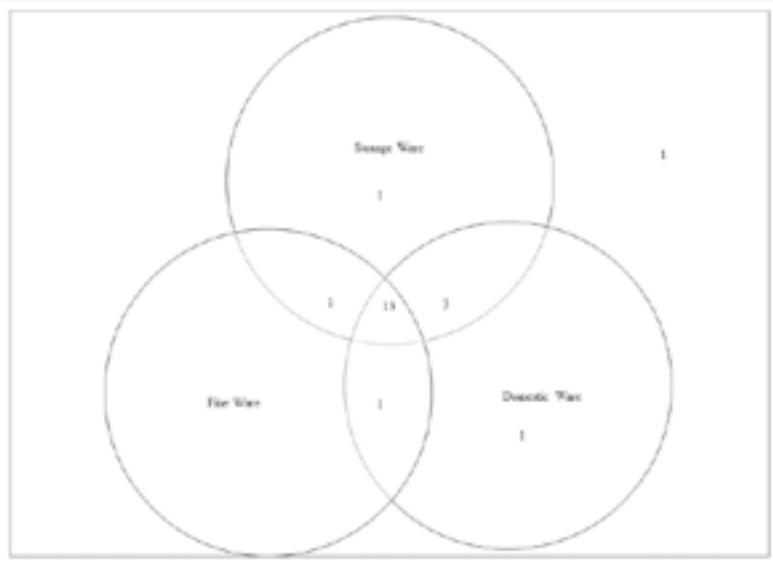


Fig. 3.26: Venn diagram illustrating the number of installation sites with each ceramic class.

Therefore, installations found associated within domestic contexts like Methana Installation 5 in Methana and Akte Installation 1 in the Akte, may have been used for household consumption only, while presses found in relative isolation, such as Methana Installation 8, with little ceramic material may have been used by the wider community. This conclusion may go some way to explain the location of installations in some areas. For instance, in the centre of the Methana peninsula, the high number of installations with little evidence of domestic activity may signify that they belonged to individuals or family groups who exploited the particularly rich soil in this part of the peninsula and lived elsewhere. This agrees with Whitelaw's comments that 'the different types of pressing tanks particularly, their contextual associations and spatial distributions provide clearer evidence for the organisation of production' (1991, 445).

To conclude, a number of points arise from the archaeological evidence for installations. Firstly, installations occur in both urban and rural contexts; this supports what has already been argued in Chapter 2, namely that agriculture did not stop at the walls of the city. Rather, city and countryside were connected by those moving between the two to carry out agricultural work. Secondly, agricultural installations located in the countryside could be found at sites which served a domestic role. It should be pointed out too that, as the activities connected with installations are usually seasonal, those occupying the land could carry them out in parallel with other agricultural and domestic activities. Finally, the archaeological evidence suggests that a number of installations can also be found with a limited amount of ceramic material, which implies that the installations were solely centres for agricultural processing. In the case of these installations, it is important to examine their location in relation to other farmstead types, particularly simple rural sites. Therefore, installations located on their own were used by a number of surrounding farmsteads in the landscape, a possibility that will be explored further through GIS analysis in Chapter 4.

Conclusion and interpretation of the archaeological data

This discussion has highlighted that few farmsteads have a clear agricultural function identified by the presence of an agricultural installation. Therefore, it is necessary to understand the role of the majority of farmsteads identified through survey based on the types of ceramic evidence, as well as scatter size, other structural remains, and their proximity to other farmstead types and to urban centres. The variations identified in the ceramic data has suggested a greater variety in the types of activity, such as occupation, residence, storage, and processing, within agricultural industry. Thus there were various modes of occupation in the landscape, very possibly running concurrently with each other.

In the Akte peninsula, for example, the proportion of rural to urban sites in the Classical period was six to one; this rises to a peak of ten to one in the Late Classical

to Early Hellenistic period (Jameson *et al.* 1994, 383). Not only is there an increase in the number of farmsteads, but the surveyors noted that the pottery from these sites presents a consistent picture of domestic occupation. Perhaps the evidence from storage ware is the most telling in that 'massive storage *pithoi* and heavy, utilitarian basins are frequently found' (Jameson *et al.* 1994, 384). Similar basins are found built into the floors of urban houses in Halieis, therefore, the presence of basins in the countryside suggests continuity in activity between the urban and rural setting. In addition, the presence of domestic pottery and the size of farmsteads are suggestive of a shift to a dispersed settlement pattern, and of large rural family farms engaged in intensive cultivation of olives for economic purposes (Jameson *et al.* 1994, 387–394). This all-inclusive identification of farmsteads as supporting long-term occupation has met with criticism, particularly concerning the conclusions reached via the ceramic evidence (e.g. Foxhall 2000, 490). Indeed the conclusion that these farmsteads were inhabited by large, prosperous farming families who were living there full-time may be a little too optimistic. But the archaeological evidence during this period shows that the landscape of the peninsula became a focus for increased settlement and agricultural activity.

Conversely, the archaeological data at Methana suggests that agriculture was focused on 'subsistence-orientated' agricultural regimes (Gill *et al.* 1997, 67). In Methana, the farmsteads are typified by their small size, modest accoutrements, rural setting, and agrarian character (Foxhall 1997, 257). The settlement pattern appears to be different from the Akte, in that there is an increase in farmstead numbers in the landscape in the Classical period, which may be associated with an increase in the intensity of cultivation that necessitated residence close to farmland. But the number of farmsteads drops off during the fourth century BC, which implies that the needs of the farmers had changed, and farming could be conducted from the larger settlements at Methana, Oga, and Magoula (Gill *et al.* 1997, 66–67). Therefore, this appears to be the opposite of what was happening in the Akte, where the fourth century BC witnessed an increase in farmsteads. Nevertheless, in Methana the landscape is not completely deserted; the presence of ceramic material comparable to the assemblage from the Dema house in Attica suggests that some farmsteads supported 'a small proportion of the population working the land from permanent bases outside the major centres of population' (Gill *et al.* 1997, 67). But these permanent bases may only have been in use for a short span of time. It appears that in the Methana peninsula, however, by the Early Hellenistic period, site numbers were decreasing and the evidence indicates that farming was focused more towards subsistence and that the farmsteads supported seasonal or temporary occupation.

Importantly, we must understand how the location, ceramic material and context of the site can inform us of its agricultural role. The application of a role-based typology helps not only to identify different farmstead types being

employed for agricultural purposes in the landscape, but also variations in the farmstead classes themselves. These variations highlight the fact that agriculture in different regions was complex and that choices made by farmers depended on a series of considerations already discussed in Chapter 2. Finally, in creating a role-based typology, it is possible to understand the different farmstead types used in agricultural industry as a connected network that facilitated storage, occupation, and production. The results from this chapter can be taken forward into Chapter 4, where the spatial relationship between the farmstead classes in two case studies will be analysed in an attempt to understand how this connectivity was realised via farmsteads and other site types.

Chapter 4

The connected countryside: agricultural networks in the northeastern Peloponnese

Introduction

So far, I have discussed the archaeology of farmsteads and placed them within their social and economic context, by identifying the variety of site types and how this variety reflects the different socio-economic realities of farmers. In order to bring the conclusions reached in the previous chapters together, here I use GIS technology to model the agricultural landscape using the archaeological data from the Akte and Methana peninsula surveys (Figs 3.1 and 3.2, below) to explore how these sites formed nodal points in a connected agricultural network. I intend to apply the farmstead typology proposed in the previous chapter with the purpose of reconstructing the ancient agricultural landscape. The express purpose here is to understand further the farmers' individual and shared visual awareness of the agricultural territory, along with the physical and temporal effort required for farmers to access agricultural land, farmsteads, urban centres, and markets for the storage, processing, and trade of produce.

These territories were chosen to model for several reasons. First, the geographic nature of the Akte and Methana peninsulas means that they are self-contained geographic areas surrounded on most sides by water. Both surveys also provided evidence of all three site classes, with variations in site size and ceramic repertoire suggesting that farmers of different economic status were working the land. Both territories, too, have known larger urban centres along with individual farmsteads. Concerning their differences, the terrain of both areas is strikingly different, whereas the Akte peninsula is composed of undulating hills and open plains; the Methana peninsula consists of steep, rocky terrain, with very little open spaces. As discussed in the previous chapters, too, the economic objectives of individual farmers appear to be quite different. In the Akte peninsula, the evidence of structures, large number of ceramics, and pressing equipment at farmsteads suggests that farmers occupied these sites for longer periods, and engaged at least intermittently with ancient markets. In Methana, however, after a brief period in the early fourth century BC, occupation was focused in the larger urban centres of Methana, Magoula, and Oga (Gill *et al.* 1997, 67; Hansen 2004b, 12–13). Similarly, the presence of amphorae at installations in Methana

in comparison with *pithoi* in the Akte peninsula suggests that both territories engaged in different practices in the storage and movement of agricultural goods. Therefore, the similarities and differences between the nature of the archaeological data and the socio-economic circumstances of the farmer make these worthwhile candidates for modelling and comparing the agricultural landscape.

The use of GIS technology has become commonplace in the study of archaeological data and is now incorporated in most projects, both to improve the resolution of raw data, and to carry out further post-collection analyses. For example, in the pedestrian landscape survey of Boeotia, a GIS spatial analysis was carried out on the hinterland of the ancient city of Thespiai with the purpose of better understanding the relationship between rural sites and larger urban centres (Howard 2007; Farinetti 2011). A cost surface analysis, which measures distance versus physical effort, was carried out in order to understand the ease of access to parts of the landscape, specifically for the purpose of manuring. The objective of that analysis fits into the broader aims of the Boeotia survey. Specifically, attempting to identify the relationship between manuring patterns and ease of access to the countryside, the results of which allowed the surveyors to surmise that there is a correlation between favourable cost surface values and off-site densities (Howard 2007, 123–124). These results suggest that there is a link between off-site scatters as evidence of manuring and the ease of access into the landscape however, it is natural to assume that sites and agricultural land would be located in accessible terrain. Consequently, this does not necessarily mean that accessibility for manuring purposes was the sole reason for site choice, but the application of digital technology can help visualise and query the data in a holistic manner. Therefore, the digital capture of Greek archaeological data, and the interpretative application of spatial analysis to the data is helping researchers reconstruct ancient social, religious, and economic practices.

The tools used to model paths, visibility, and distance

The tools used here have become staples in archaeological research, and the application, methodologies, and criticisms of using GIS technology have been addressed in several publications (e.g. Fisher 1994; Krahtopoulou *et al.* 1998; VanLeusen 1999; 2002; Wheatley and Gillings 2002; Connolly and Lake 2006). Here it is worthwhile to explain briefly what these tools are and how the results can shed further light on the visibility of farmland, and the accessibility of farms and markets. Least-cost path analysis generates possible routes across a digital elevation model (DEM) of terrain, following the path of least resistance. This is a useful analysis as it provides information on the quickest route between site classes, and can be used to investigate similarities and differences between GIS generated routes and known ancient roads. Modelling ancient road networks is a valuable tool since roads were a fundamental component of the social and economic life of a territory. Through archaeological investigation, we can identify visible remains of ancient roads (cut blocks/wheel ruts), road markers (*horoi*), wells, and also uncover sections of roads through excavation. These traces can certainly help

give an indication of the direction of travel and the nature of the road, but it is difficult to trace the entire route of the road solely based on this evidence. The application of least-cost path analysis allows us to posit routes through a landscape, which can then be compared to the archaeological data. For example, during the survey of the Eurotas valley, the team mapped the existing and probable ancient routes along with nodal points for communication across the landscape (Catling 2002, 212, ill. 5.4). Figure 4.1 is a map illustrating the location of identified farmsteads in the survey area, along with the mapped ancient routes, and GIS generated least-cost paths. It is clear from the map that there are similarities in the known ancient routes and least-cost paths, especially leading to the *perioikic* settlement of Sellasia to the north, and the farmsteads to the east of the survey area. This example, asserts then that the generation of these least-cost paths can help reconstruct the ancient routes in the peninsula and help investigate the ease with which one could access rural sites.

The path-distance tool works hand-in-hand with least-cost path analysis. This tool models the cost, measured in either time or energy, of moving through the landscape (Conolly and Lake 2006, 215). By assigning 'friction values' to the degree of slope in the landscape a value is then given to the cost of traversing that slope. Therefore, if flat ground is given the value of 1, then a slope with the value of 3 is three times more difficult to traverse (Wheatley and Gillings 2002, 139–143). I have generated

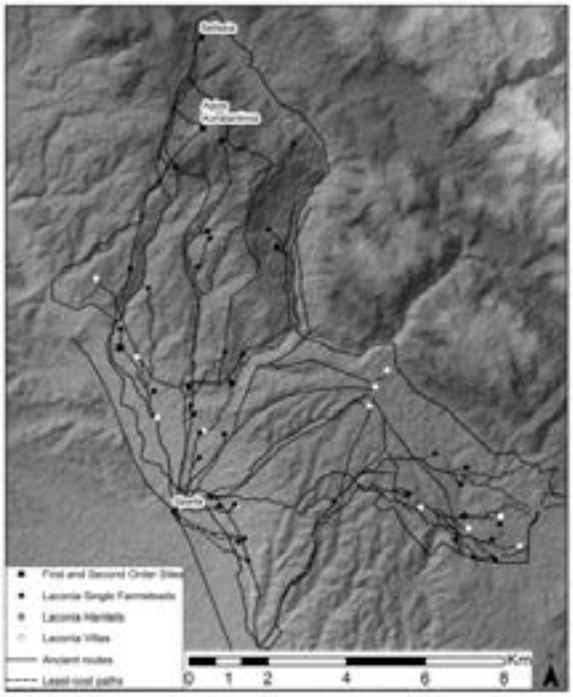


Fig. 4.1: Shaded relief map of the Eurotas valley with ancient roads, and least-cost paths.

Table 4.1: Ancient performance estimates

Type of transport	*Speed (kph)*	*Load (kg)*
Human pedestrian	4–5	n/a
Human porter	2.5–3	30–60
Pack donkey	2.5	60–100

Adapted from Bevan (2013).

path-distance models measured in time (minutes) using Tobler's hiking function (1993) to provide values for slope and effort. By comparing these outputs to travel time benchmarks for load, speed, and transport for ancient Greek and Roman contexts as illustrated in Table 4.1, I can then measure the amount of time and effort it took to travel along the ancient and GIS-generated routes.

The investigative potential of visibility analysis in archaeology has been tested in various studies, the results of which have indicated positive and accurate results (e.g. VanLeusen 1999; 2002; Wheatley and Gillings 2002; Bevan and Conolly 2002–04; Ogburn 2006). Similarly, to least-cost path analysis, viewshed analysis has become a staple practice in archaeology and is particularly used to suggest reasons for site location, in particular towers (Morris and Papadopolous 2005, 162). The application of this technique allows us to model both the line of site from a point in the landscape, in this case a farmstead, and model the field of vision from these site types. Conducting an analysis such as this allows us to gather further understanding of the needs of individual farmers. Visibility of the landscape and its components such as arable land, intensively farmed land, natural resources, potable water, and road networks was an intrinsic concern for farmers choosing site location. Using viewshed analysis, I illustrate the extent of visible land from farmsteads and the intervisibility of sites with the purpose of identifying the extent of a farmstead's visual control of territory, and suggest reasons for why visibility overlaps among several sites. In the previous chapters, I explained that visibility of the landscape was a key consideration for those free or slave labourers working the land. For instance, towers perhaps served in part as lookouts, and the textual evidence indicates that the visibility of the surrounding territory and between sites from farmsteads played a significant role in the lives of those working the land. For example, several people witness the assault on the plaintiff's farm from their own land in Demosthenes 47 (as quoted in Chapter 3). The purpose of this chapter then is to generate models of the agricultural landscape in order to understand in a holistic manner how time, effort, movement, and visibility affected farmers accessing and using farmsteads within the Akte and Methana peninsulas.

Agricultural networks in the northeastern Peloponnese

Least-cost paths and path-distance

The question of the accessibility of the countryside from the city is an inherent aspect of the discussion concerning the socio-economic viability of agriculture.

Previous demographic studies argued that the majority of people lived in cities and towns, and in line with the nature of the ancient economy, the majority of the cities' inhabitants were farmers (Hansen 2004b, 16; Lohmann 1992, 29). This implies that at least a portion of the population commuted from the city or village to the countryside in order to farm, while the archaeological evidence suggests that others may have lived in the countryside full-time (Hansen 2004b, 20; Bintliff 2006a, 27). Recent demographic studies carried out on the Attic countryside have attempted to reconcile this issue by suggesting that the choices available for the location and duration of habitation had a greater degree of complexity and possibility for change (Holleran and Pudsey 2011, 7). Indeed, it is feasible to consider that people changed their living environments from the city to countryside depending on a series of factors including economic needs, age, and political duties (Taylor 2011, 125–129). The complexity of the debate about habitation on the land and the variety of socio-economic factors, which affect it from region to region, means that trends can only be understood in very broad terms, especially beyond the borders of Attica where the textual evidence is scant (Jones 2004, 19). The study of the textual data conducted in Chapter 2 suggests that settlement patterns in the countryside consisted of both nucleated and dispersed settlements, and significantly, that the nature of settlement was dependant not only on the status of the farmer, but also on the socio-political condition prevailing in the area.

It is still possible, however, to examine the archaeological and textual evidence with a view to understanding further, how accessible farmsteads were from larger urban centres. The urban centres and roads created the framework that allowed people to move around, communicate, live, and work in the countryside. Without cities to provide the essentials of civic and communal life and a place to trade agricultural produce, inhabitants of rural sites were relegated solely to subsistence living. Similarly, roads are the corridors between each city, and therefore, cities and roads create the structure for those working the land (Keller and Hom 2010, 2). Thus an understanding of the infrastructure connecting farms gives insight into not only the means by which movement through the landscape could be achieved, but also how agriculture functioned as an economic entity. Prior to investigating the archaeological evidence, I wish to discuss Demosthenes' *Against Euergos and Mnesiboulos.* The case is the result of a long, drawn-out affair involving assault, false witness, and the refusal to pay penalties. What is of particular interest here is the assault carried out by the defendants Euergos and Mnesiboulos on the plaintiff's farm. The description of this and a subsequent further assault, perpetrated a number of days after the first, provides valuable insight not only into the workings of the farm itself, and the status of people who witnessed the attack (discussed in Chapter 2), but also the movement of people from the farm to the urban centre:

> When, the news of what had been done was brought to me in Piraeus by the neighbours, I went to the farm, but found that these men had left. [Another attack is carried out on the farm ...] Euergos went at once from the city in company with some others to the farm ...

> The furniture which I had remaining – some few pieces which the day before happened to be in the tower and not outside – had, after I came home, necessarily been brought down, and Evergus, forcing open the gate which they had broken down the day before, and which was scarcely fastened, carried off my furniture ... (Demosthenes 47.60–65)

Clearly, to the mind of the speaker, despite the physical proximity of the farm to Athens, his farm is firmly εἰς ἀγρὸν, that is, in the countryside, and consequently this cannot be considered an urban farm (for the use of ἀγρὸς to denote a farm see Pritchett and Pippin 1956, 269; cf. Osborne 1985a 18–19). The impression of the Attic countryside gleaned from these passages is that of a populated landscape, with neighbours watching the attack from their own properties while onlookers on the street are called to witness the assault. This passage is particularly interesting because it suggests that the area in which the farm was located was populated with other farms, neighbours, workers, slaves, and passers-by. Furthermore, the above passage suggests that people could move from the city itself (where the plaintiff is visiting a bank) to his farm within a relatively short period.

Another example from Xenophon's *Oikonomikos* (previously quoted in Chapter 2) sees Ischomachus, the ideal Athenian gentleman, travel out to his farm, perhaps daily, to oversee the activities and discuss projects with his farm bailiffs. Crucially, it appears that he is visiting his farm workers who live on the farm full-time:

> If there is nothing pressing to be done in town, my servant leads my horse to the farm, and I make my walk by going to it on foot, with more benefit, perhaps, Socrates, than if I took a turn in the arcade. When I reach the farm, I may find planting, clearing, sowing, or harvesting in progress. I superintend all the details of the work, and make any improvements in method that I can suggest. (XI. 15–16)

Similarly, in Lysias 1 (previously quoted in Chapter 2), Euphiletus travels to the countryside – presumably in order to farm, though this it is not expressly stated – for an indeterminate length of time (but long enough to allow his wife to carry on an affair while he's gone):

> Time went on, sirs; I came home unexpectantly from the country, and after dinner the child started crying in a peevish way, as the servant-girl was annoying it on purpose ... (1.11).

When Euphiletus wishes to confront the man who is cuckolding him, he attempts to gather witnesses but finds his neighbours away from home because they are in the countryside (Lysias 1.23–24). Based on the evidence in these texts, it is clear that these farm sites were accessible despite their rural location, and importantly, not as isolated and difficult to access as some scholars would have us believe.

This brief foray into the textual evidence suggests that there was occupation of farmsteads and certain degree of movement of agricultural personnel in the countryside. However, these texts provide little information regarding the practicalities of how produce and people could move between the farm and city for agricultural purposes. What they do illustrate, however, is that from the speaker's perspective, at least, travel between the city and countryside appears feasible, and

crucially we may infer that movement between the two happens regularly across various strata of society. I intend at this juncture to model the accessibility of archaeologically identified farm sites further using GIS. Through critical examination of the ancient agricultural infrastructure, in the endeavour to understand better the traffic of agricultural goods between the city and countryside, it is possible to draw inferences concerning the economic viability of agricultural activity and the intrinsic connectivity between the city and its countryside.

Networks connecting first and second order sites

Figure 4.2 illustrates the physical cost of travel in minutes radiating out from the city walls of Halieis. The map highlights the GIS generated least-cost paths to the first order sites of Hermione and Mases, represented by black lines, and ancillary routes (broken

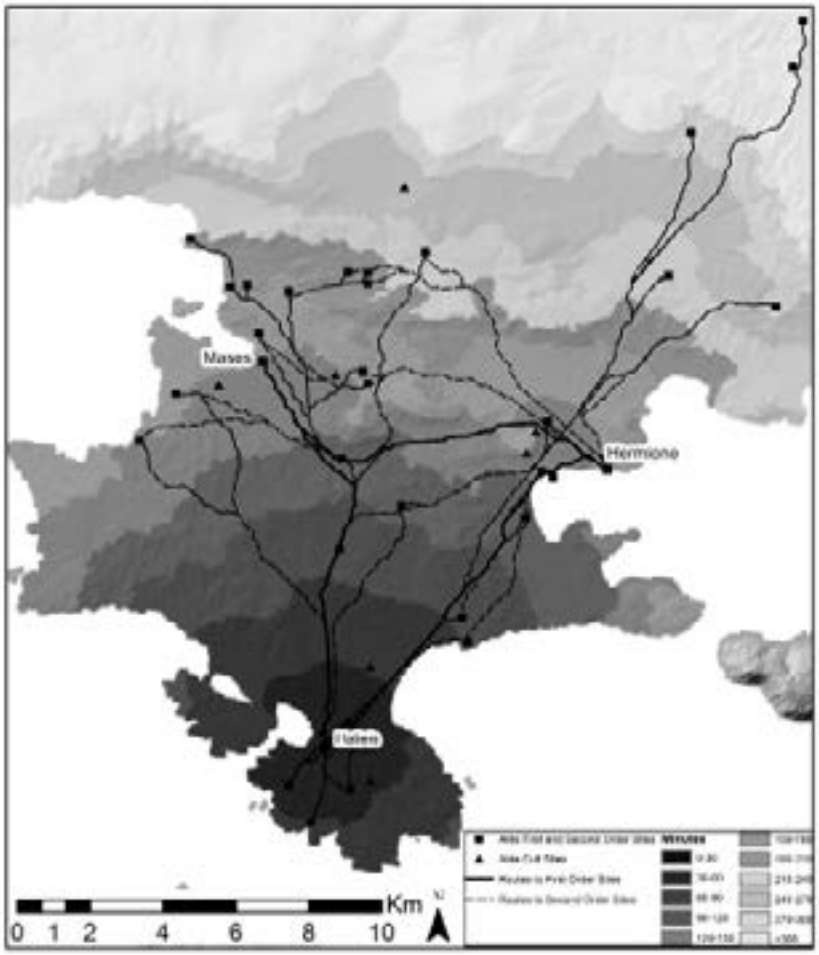


Fig. 4.2: Distance in minutes from Halieis with least-cost paths to first and second order sites.

black line) to second order sites in the peninsula (Appendix Table 8 and 9). The routes to the first order sites mirror the existing modern road network, which the surveyors believe, follows the ancient routes Pausanias took through the peninsula (Pausanias, *Description of Greece* 2.36.1; Jameson *et al.* 1994, 48). Therefore, it is highly likely that the least-cost paths correspond to the ancient routes. From this map, we see that both Hermione and Mases can be reached from Halieis in the space of 150–180 minutes, based on a human pedestrian walking at 5 km per hour. Imagining a scenario of a human porter walking the distance of 11.5 km from Halieis to Hermione; carrying a load weighing 30 kg, they will average a speed of 2.5–3 km per hour or 0.8 km per minute. Therefore, they will walk the 11.5km to Hermione in approximately 4.6 hours, whereas they will reach Mases in 5.1 hours. These estimates are not exact and do not take into account variables such as weather, season, or stopping for breaks. But they do give an indication of the physical effort required to travel through the Aktean landscape.

Shifting the starting point to the walls of Hermione in Figure 4.3, the survey report notes that Mases served as a second port for the city. Therefore, it is reasonable to assume that there would be continued travel between the two cities. The approximate distance between Hermione and Mases is 13.76 km, meaning that an unhindered person could walk to Mases in 120–150 minutes at a speed of 5 km per hour. For a human porter carrying 30 kg, walking speed is reduced to 2.5 km per hour and it will take 5–6 hours to reach the destination. For a donkey carrying 100 kg and walking at 2 km per hour, it will take between 6–7 hours. These time estimates indicate that, despite the relative short distance between the cities, once a weight factor is introduced, the journey takes longer and there is a greater degree of difficulty in moving through the landscape.

Both Figures 4.2 and 4.3 illustrate the cost of travel from Halieis and Hermione, in addition to the second order sites identified during the initial survey. It is clear from the characteristics of these sites as listed in Appendix Table 8 that the majority of second order sites consisted of settlements with visible structures, wells, shrines, and in some cases circuit walls. This evidence illustrates that second order sites were substantial settlements and supported long-term occupation, and therefore, habitation was not solely associated with farmsteads or the three urban centres of Halieis, Hermione, and Mases. In Chapter 2 I discussed how due to the extent of city-state territories, that we would expect second order sites to be spaced 2–3 km apart. From Figures 4.2 and 4.3 it seems, for the most part, that this holds true. Furthermore, as with Geraki in Laconia, it seems that these smaller towns and villages coexisted with larger *poleis* in a single landscape, and often replicated the types of domestic, cultic, and economic activity as larger cities. It is important to note, however, that the presence of smaller urban centres does not negate the role of farmsteads as domestic centres in the countryside. Therefore, in the Akte peninsula then, we have an excellent example of the multiple types of settlement patterns ranging from nucleated to dispersed within one landscape. Furthermore, if we shift the focus away from the first order sites, and illustrate the cost measured in time from

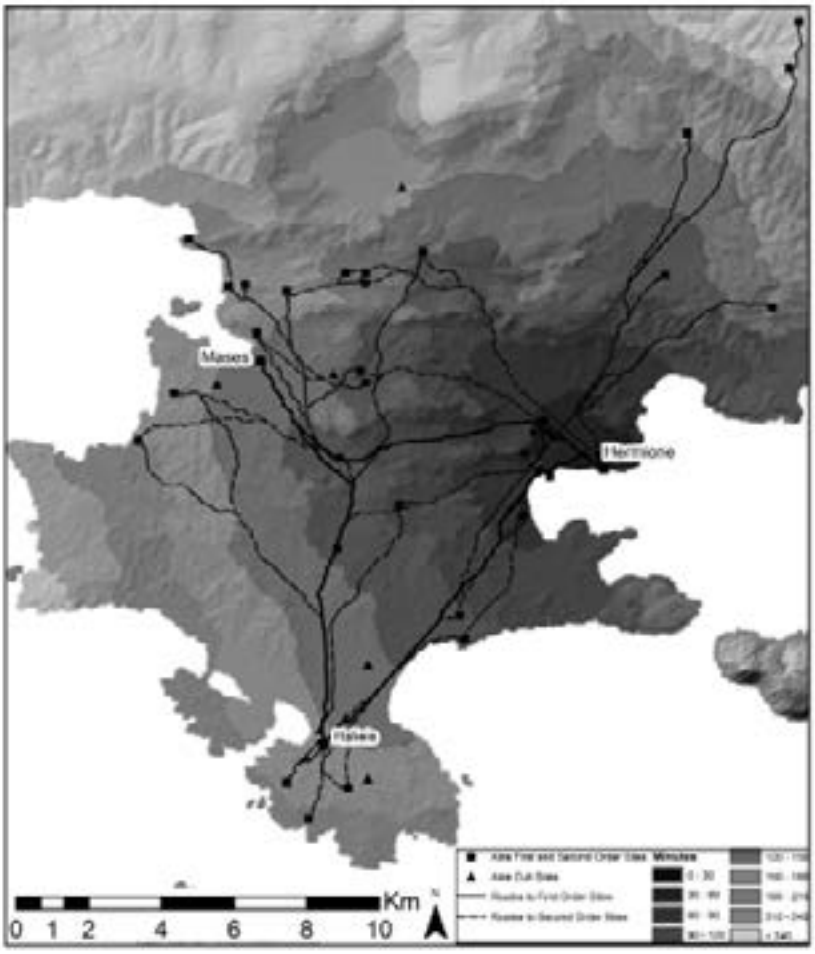


Fig. 4.3: Distance in minutes from Hermione with least-cost paths to first and second order sites.

second order sites, the accessibility of the landscape becomes strikingly clear. From Figue 4.4, where the time cost is measured from second order sites, we can extract two important points. Firstly, each settlement has a radius of arable land accessible within 30 minutes, of course that is not to say, that those inhabiting these second order sites were farming here, but when compared to the land use maps discussed in the previous chapter, it illustrates that arable land could be exploited from rural as well as urban settlements. Secondly, the majority of the least-cost paths to second order sites (the broken black lines) correspond to the larger known routes between the urban centres, and interestingly, the fact that the route from Halieis to Hermione continues further north to the second order sites suggests that this route may have linked the peninsula with other territories. This indicates that the routes connecting the three larger urban centres were main arterial roads for the peninsula, and would

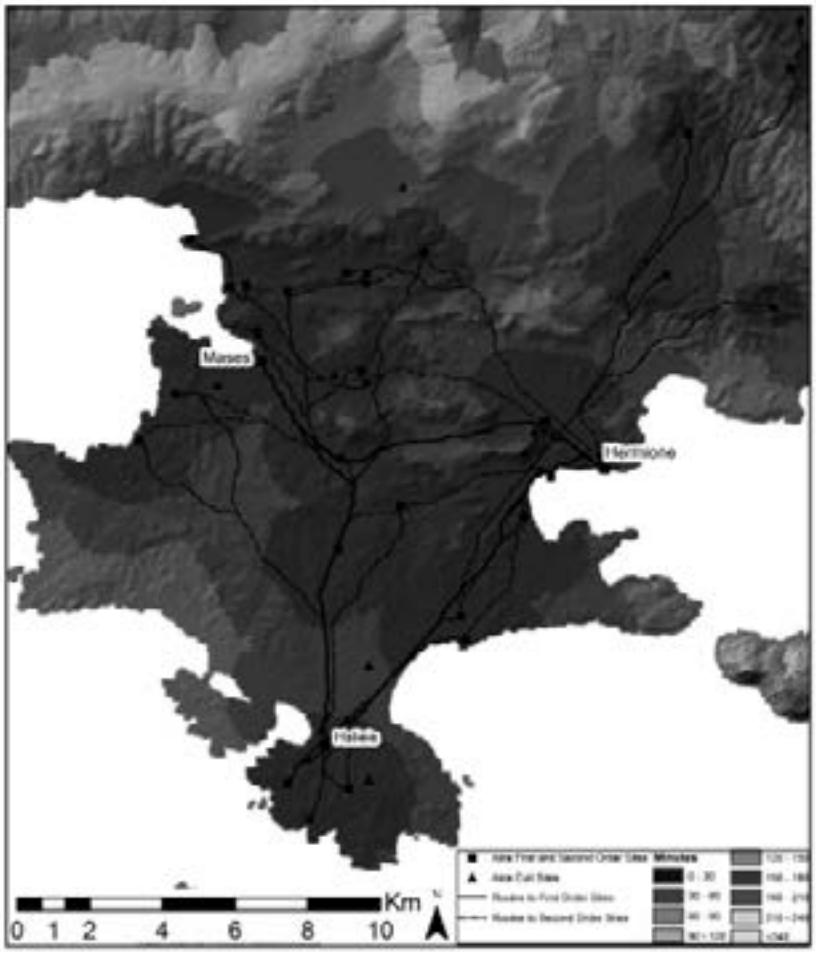


Fig. 4.4: Distance in minutes from second order sites in the Akte peninsula.

be subjected to a considerable amount of human and animal traffic. Finally, these three maps, illustrate the extent of connectivity in the Aktean landscape in terms of its accessibility and mobility. The results clearly show that the countryside was not an isolated or an isolating place, and that a variety of urbanised settlements could be reached easily within a short period of time.

Regarding Methana, Figure 4.5 shows the distance measured in time radiating out from the city of Methana and the least-cost paths, to the known urban centres of Oga and Magoula. The least-cost paths encircle the peninsula and connect the three urban centres along the coast, rather than across the peninsula. Unfortunately, it is not possible to trace the ancient route ways of Methana (Hamish Forbes pers. comm.), but the locations of sites, particularly towers, and other indicators of roads suggests that in antiquity major routes encircled the peninsula, rather than across

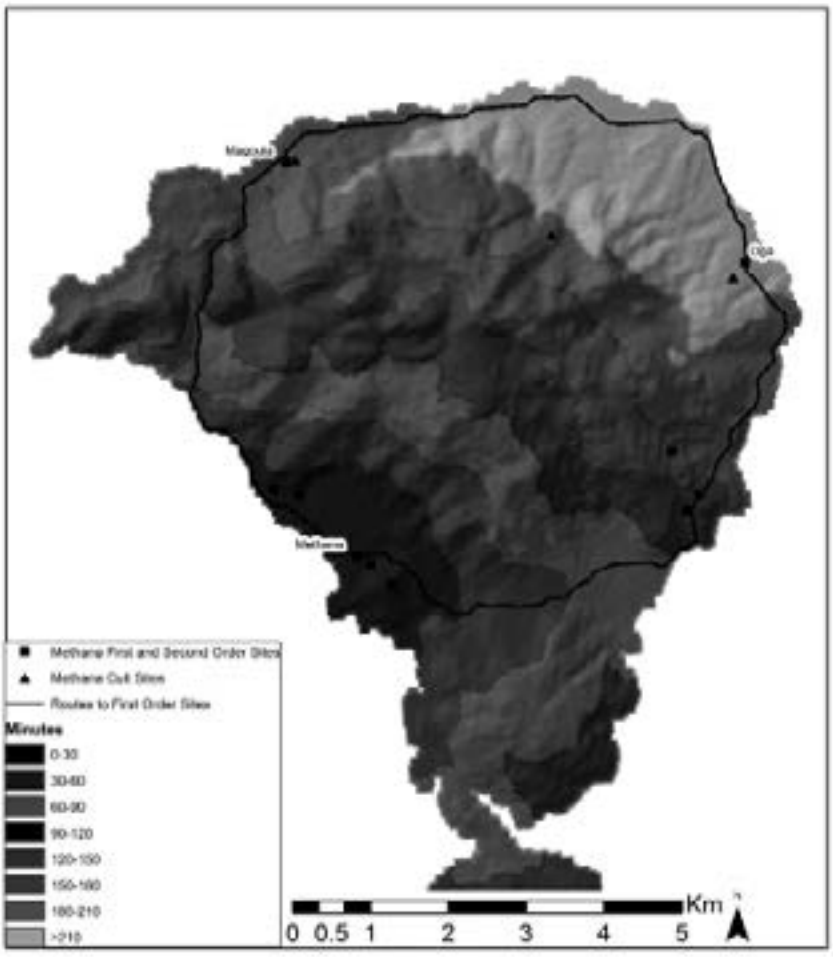


Fig. 4.5: Distance in minutes from Methana with least-cost paths to first order sites.

it. In comparing the distance in minute's maps for Halieis and Methana, we can note that moving through the Akte landscape takes much less physical and temporal effort than Methana. For example, the straight line distance between Methana and Oga is 6.1 km, but the longer and physically less demanding coastal route measures 8.5 km, in addition to the added length, the map illustrates that it would take approximately 190 minutes to walk from Methana to Oga, meaning that the walking speed has been reduced to 2.68 km per hour, in contrast to an average of 5 km an hour for flat ground. The estimate indicates that moving through the Methana countryside was both time consuming and physically demanding in comparison to the flatter Akte peninsula. Shifting the focus to Oga (Fig. 4.6), the ratio between travel time and distance is less than that from Methana. The straight-line distance between Oga and Magoula is 6.1 km, and the least-cost path is slightly longer at 6.6 kilometres, indicating that

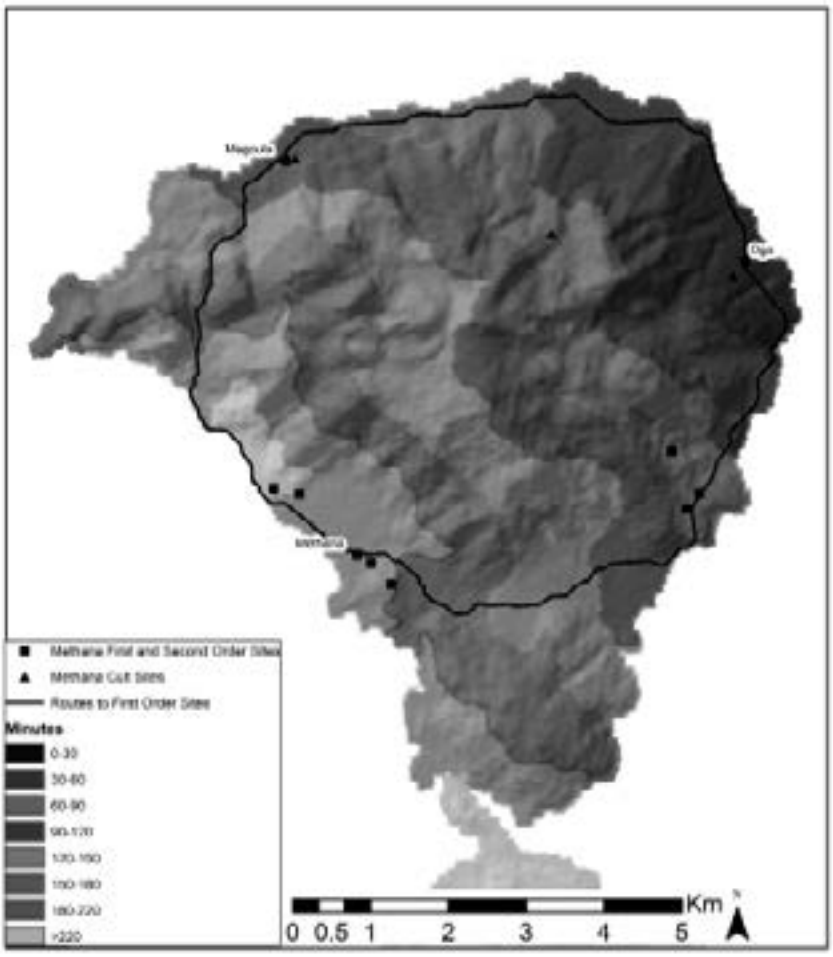


Fig. 4.6: Distance in minutes from Oga with least-cost paths to first order sites.

it would take approximately 100 minutes to walk from Oga to Magoula averaging a speed of 3.96 km an hour. These results suggest that moving through this landscape was physically demanding, but less so than the western coast.

Fewer second order sites were recorded in Methana than the Akte peninsula, and as the table Appendix Table 13 illustrates the characteristics of these settlements were quite different from the Akte. There is little archaeological evidence to suggest that these sites were large or self-supporting. This ties in with the conclusions reached by the survey team, that overall Methana, Oga, and Magoula provided the main habitation centres for the peninsula's population. Figure 4.7 brings into sharp focus the challenging nature of Methana's topography. It is clear from the map that travel is best achieved along the main routes encircling the peninsula, and that the interior of the peninsula has a high time and physical cost for the traveller. Unlike in

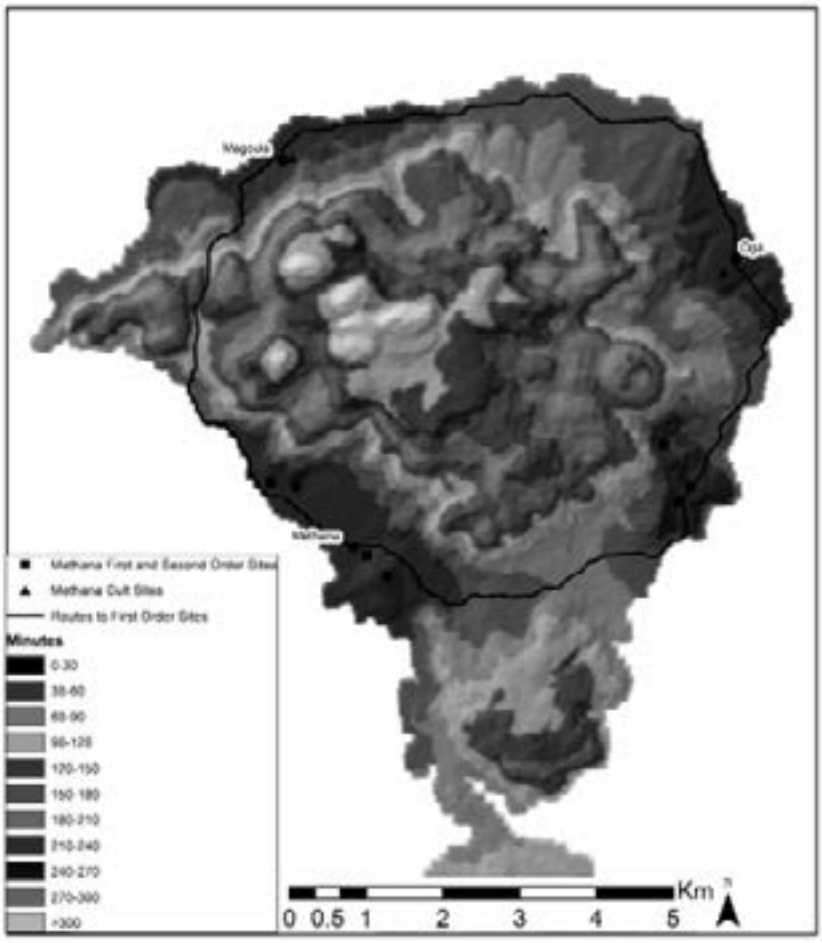


Fig. 4.7: Distance in minutes form second order sites in the Methana peninsula.

the Akte peninsula where we could draw associations between second order sites and arable land, it is not as simple to draw the same comparisons in Methana. It seems that these second order sites are located along the coast for reasons of accessibility rather than for arable land. One point to note in particular is the presence of Methana Installation 1 on the acropolis of Oga, on the eastern coast of the peninsula. I noted in the previous chapter that the location of the press within the settlement illustrates the connected nature of urban and rural settlements for agricultural industry. For Methana, it seems that the presence of the installation within Oga highlights this connection, in that produce could be transported to settlements for their processing. However, the majority of installations were located away from major settlements. This conclusion is consistent with the archaeological evidence and the survey team's findings that farmers on Methana processed crops close to the land they farmed, and then transported it to settlements.

Networks connecting farms

Turning to the agricultural landscape, now that the frame of cities and routes has been generated, we can populate the landscape by introducing the three site classes. In Figure 4.8, the three site classes are illustrated and it becomes immediately clear that these sites are positioned close to the least-cost paths. Equally, the majority of sites fall between 30–90 minutes' walk from Halieis' walls, suggesting that farmers could commute to farms. Even though these sites are close to urban centres, their ceramic repertoire is not utilitarian, implying that some sites provided permanent or semi-permanent occupation for farmers, despite their proximity to the larger urban centres. Perhaps the most revealing result is the position of the larger cluster of simple rural sites and installations in relation to the least-cost path connecting Halieis and Hermione. Sites here were clustered not only because of proximity to

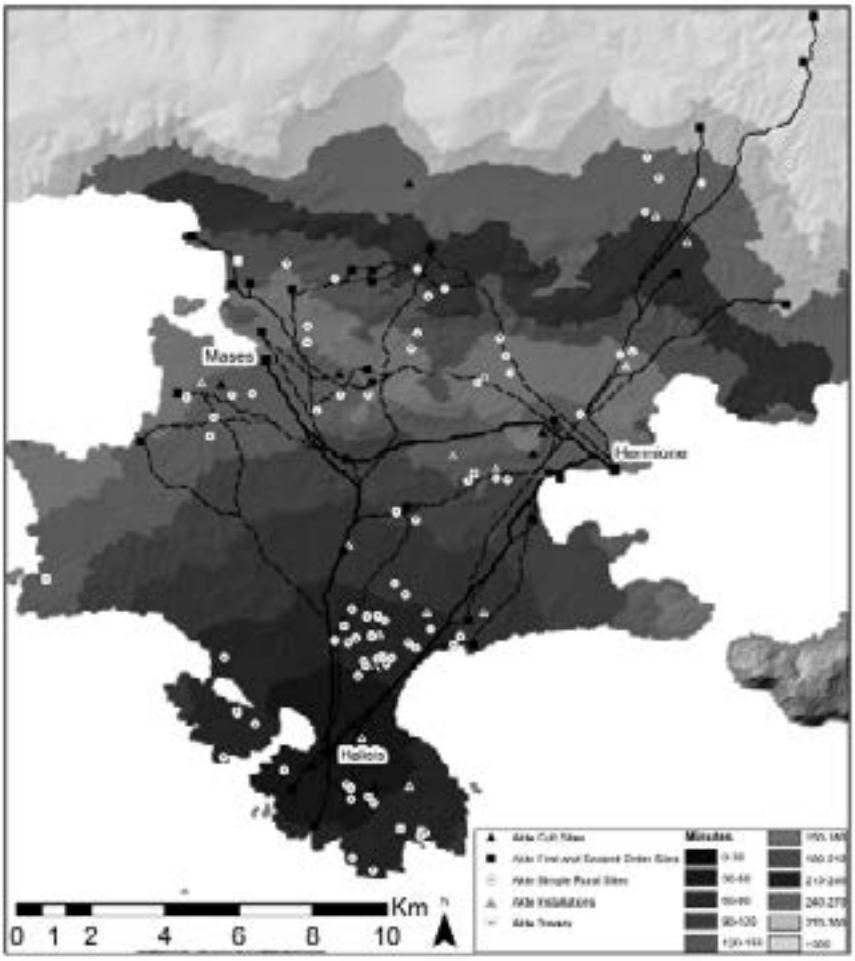


Fig. 4.8: Distance in minutes from Halieis, with least-cost paths and first, second, and third order sites.

an arterial road through the peninsula, but also the fertility of the land in this area. Therefore, the proximity to a road and the benefits for trade and ease of access appears to outweigh the dangers associated with being close to routes in the countryside. The positioning of farm sites along roads is somewhat confirmed (albeit for another region) by Xenophon's account of the burning of farms along the route between Sellasia and Sparta:

> Coming to Sellasia, they at once burned and pillaged it ... the next day they marched on ... keeping the Eurotas on their right they passed along, burning and plundering houses full of many valuable things. (*Hellenica* 6.5.27)

Changing the direction of travel from Halieis to Hermione (Fig. 4.9) illustrates that the large cluster of sites on the Halieis-Hermione road is now located 95–121 minutes from

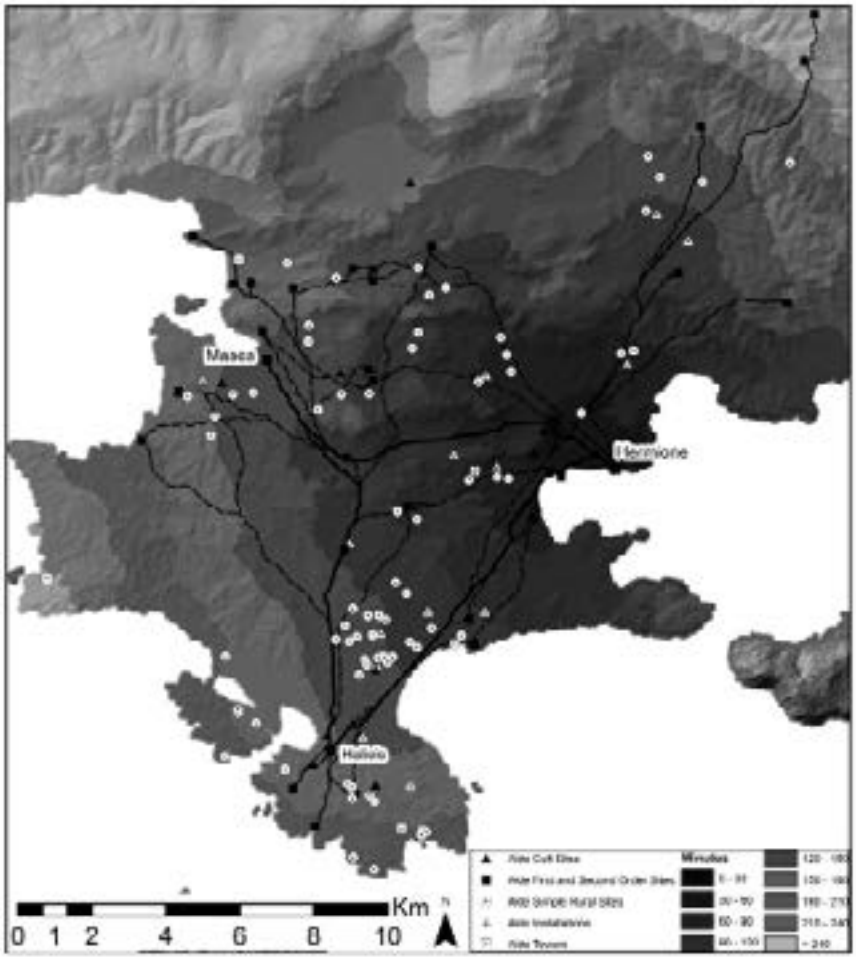


Fig. 4.9: Distance in minutes from Hermione, with least-cost paths and first, second, and third order sites.

the city. The sites in the northern part of the survey predominately have some type of agricultural tools, mostly stones for grinding grain. For example, site Akte SRS 17 just south of Akte Second Order Site 7, is positioned on the northern route between Mases and Hermione. The material evidence from this site strongly suggests an agricultural role in the keeping of bees and occupation in the evidence of loom weights, a spindle whorl, and lamps. Finally, by illustrating the connectivity of farmsteads and second order sites (Fig. 4.10) we see that the majority of farmsteads are located within an hour's walk of a rural settlement. As already pointed out in the previous chapter, several of the Aktean farmsteads resemble the types of activity characteristic of a site, which supports full-time occupation. It seems then that some farmers were choosing to live in farmsteads rather than larger rural settlements, and clearly doing

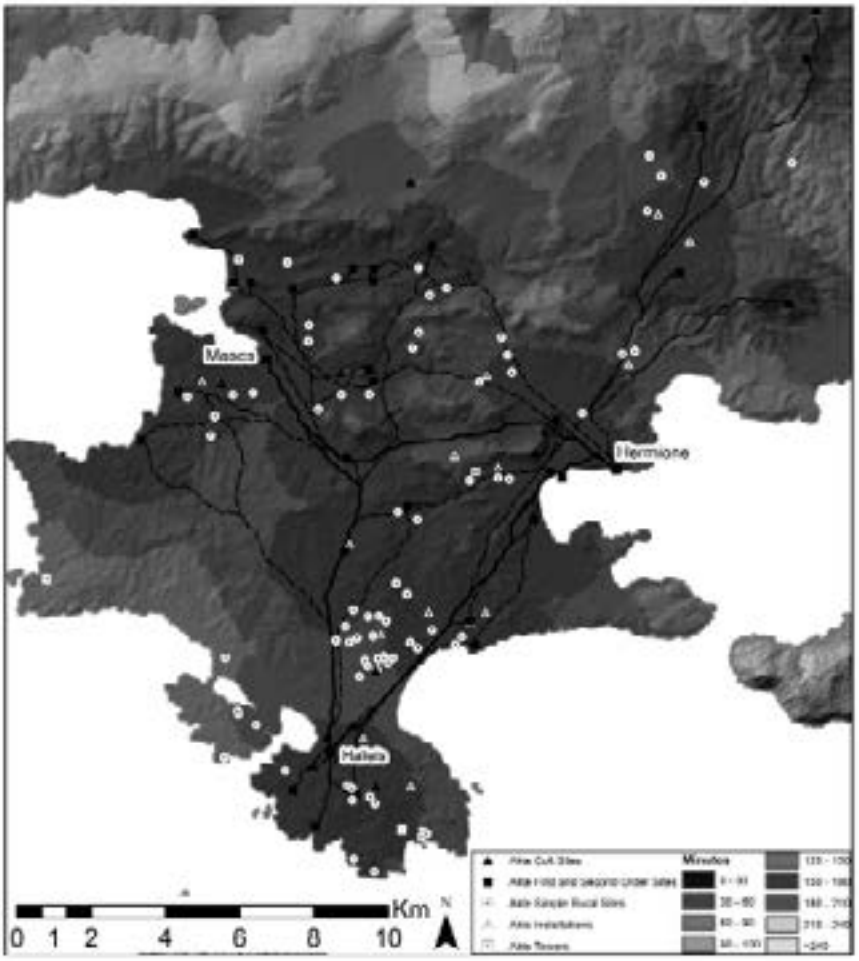


Fig. 4.10: Distance in minutes from second order sites.

so was not restrictive to engaging in socio-economic activity associated with larger settlements. Therefore, concerning the positioning of simple rural sites, firstly, a large majority of sites are located close to central urban centres or on connecting routes, and secondly, the proximity of the cities and their accessibility by road indicates that it was feasible to move between the city and countryside and have good transport links to other areas in the Akte region. Therefore, the physical infrastructure in the countryside to and from agricultural sites suggests a connected landscape, and the distance analysis confirms this as well.

Regarding Methana, unlike the Akte peninsula, there are a considerably smaller number of farmsteads, and based on the nature of the archaeological data, it seems that the majority of habitation was focused within the urban centres of Methana, Oga, and Magoula. Here in Figures 4.11 and 4.12 the distance in minutes radiates out

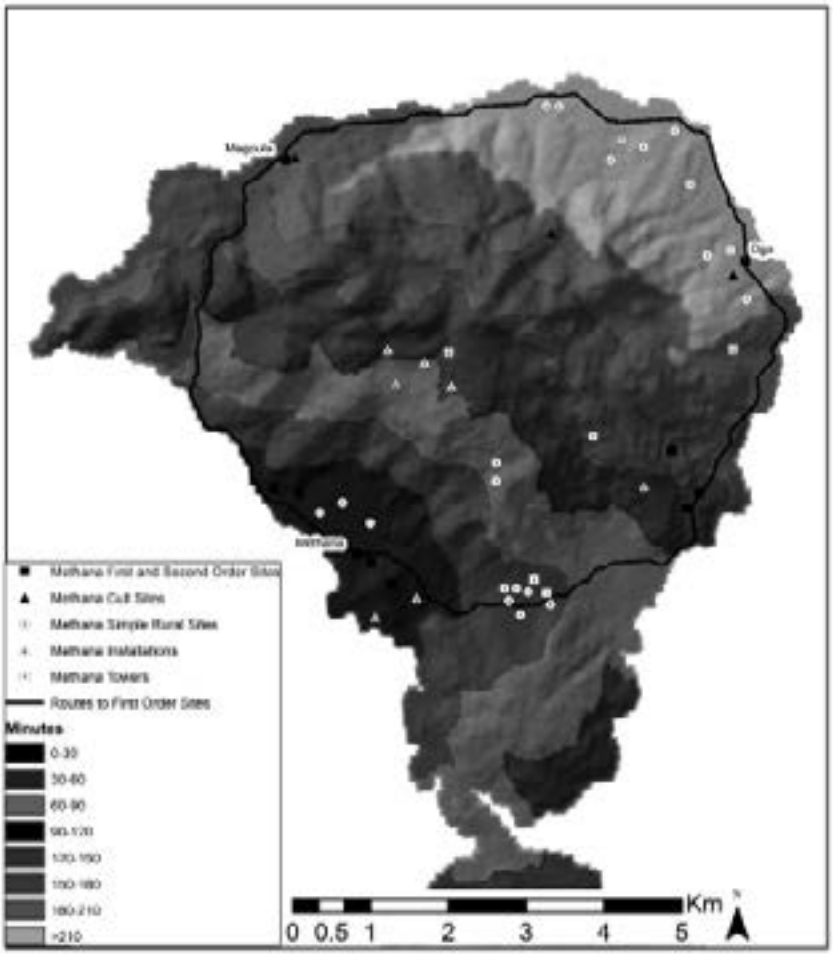


Fig. 4.11: Distance in minutes from Methana, with least-cost paths and first, second, and third order sites.

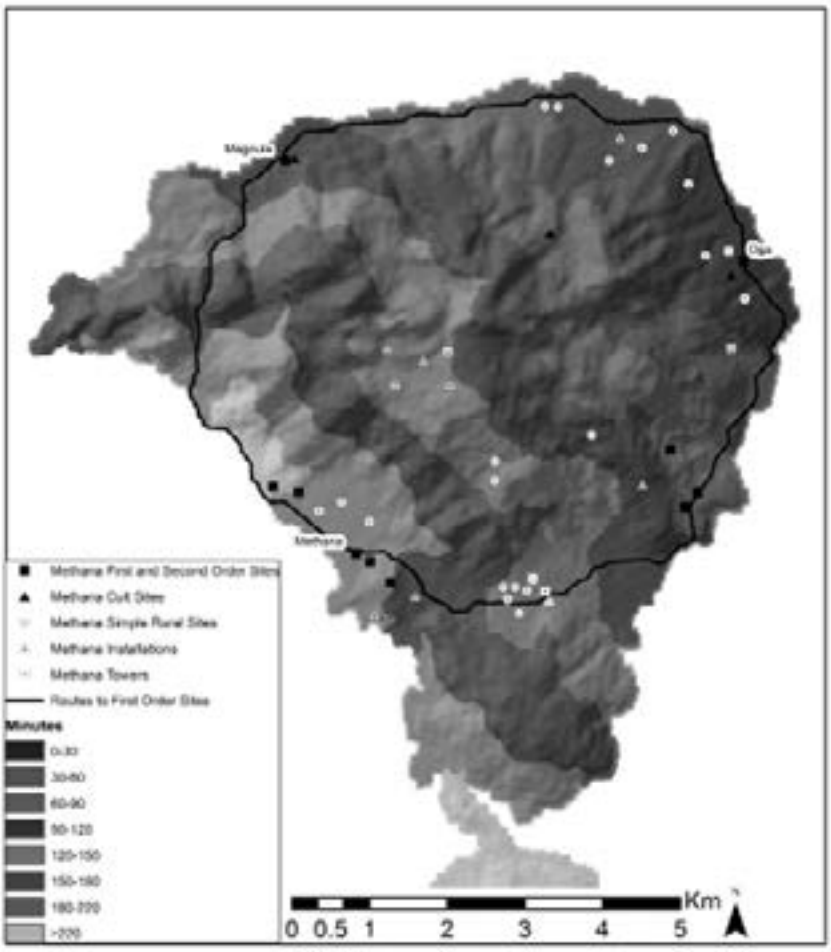


Fig. 4.12: Distance in minutes from Oga, with least-cost paths and first, second, and third order sites.

from Methana and Oga. Two key points can be drawn from these maps. First, most of the farmsteads are accessible via the main routes to the cities. This strengthens the conclusion that these sites were intentionally located close to or on these routes, irrespective of any danger to the site posed by their accessible location. Furthermore, most farmsteads are located closer to Methana than to Oga. It also seems that no farms are associated with Magoula, possibly reflecting the town's decline in the third century BC caused by the volcanic eruption. Consequently, these sites are distributed primarily on the main routes between Methana and Oga. This is relevant for ease of access to urban centres because of the rugged nature of the terrain, but the proximity of farmsteads, particularly simple rural sites, to the road may also relate to the general occupation trends within the peninsula. Therefore, in part, these sites follow the same pattern of sites in the Akte region in that they preference positions close to main

routes connecting urban centres; in contrast, however, they may not have supported the same types of activity as the sites in the Akte peninsula.

Regarding the relationship between installations and simple rural sites, the presence and placement of installations in the landscape may go some way to explain the position of other site types. The majority of agricultural installations identified in the Akte region were associated with the production of olive oil. Figure 4.13 shows distance from installations in relation to the least-cost paths to each city. At a glance, it is clear that most of these installations are located both close to simple rural sites and importantly accessible within thirty minutes from an arterial route between the cities. This strengthens the correlation between site placement, ancient routes, and settlements. The second noticeable feature is that all installations are accessible from other rural site classes and from the cities. Admittedly, it is unlikely that someone

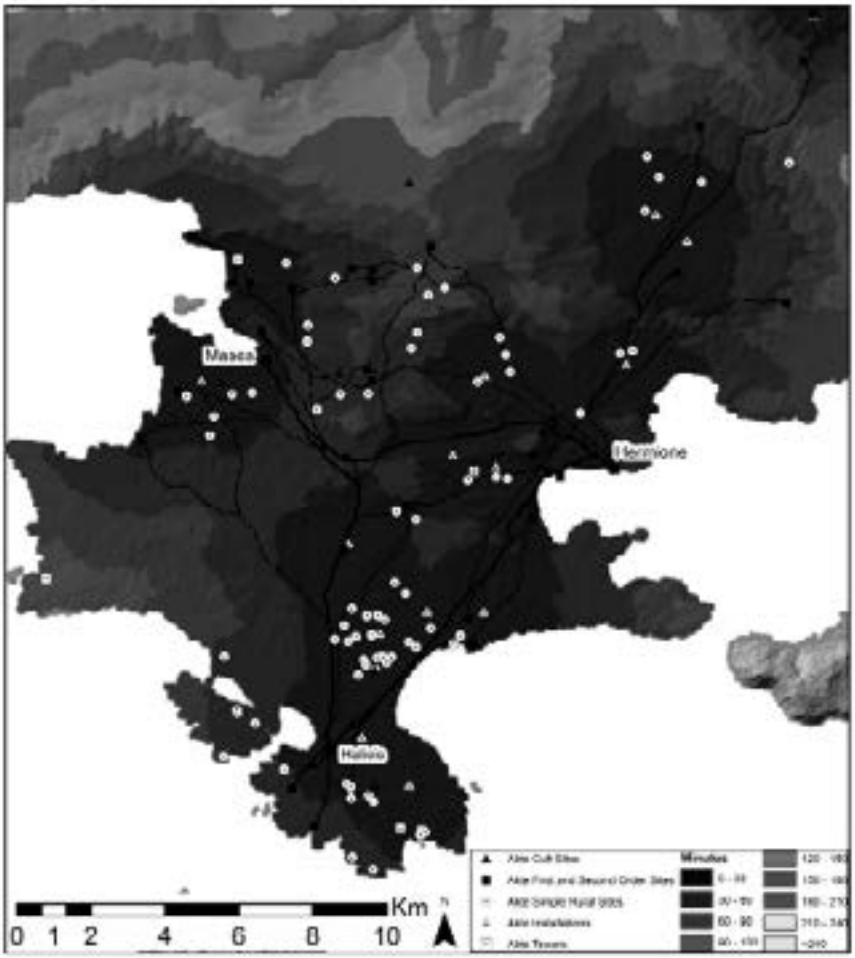


Fig. 4.13: Distance in minutes from installations in the Akte peninsula.

farming the land around Halieis will travel to process their produce north of Hermione, but it does indicate that the landscape and sites within it are highly accessible. Furthermore, some installations have evidence not only of agricultural industry, but also occupation, for example Akte Installation 1 and Akte Installation 3, have all three classes of ceramics. In contrast, Akte Installation 11 had little in the nature of domestic wares and the material culture might reflect the use of this site as a centre for the processing of agricultural goods and storage. Considering the proximity of simple rural sites in this area, we can legitimately assume that this installation was used by those farming the surrounding land, and possibly by people inhabiting simple rural sites in close proximity to them (see Foxhall 2007, 216).

In some cases, the total absence of artefacts from sites suggests that they were not farms but rather places for processing agricultural produce. The placement of these sites along routes and close to other site types helps draw a direct link between the storage, processing, and movement of agricultural goods throughout the Akte peninsula. It is equally possible to identify the relationship between presses associated with individual households, and those shared between farmers. For example, perhaps Akte Installation 1 and Akte Installation 7 represented wealthy landowners, because they had ceramic evidence indicative of wealthy sites, and the presumed owners can afford to have private pressing installations, whereas in contrast, Akte Installation 10 and Akte Installation 19 were solely processing centres for farmers who harvested their crop and transported it to these other sites for storage. In analysing the site's characteristics, and their proximity to roads, distinct characteristics emerge in the siting of installations in the landscape of the Akte peninsula. Firstly, some installations are housed in sites that have domestic ceramics or are located very close to those that have them. Secondly, if the site does not have evidence of occupation, it is most often located near a main route between one of the major cities, which facilitates access to the pressing site and movement of the produce to likely market centres. This conclusion confirms the theory put forward in Chapter 3 for the role of different installations. Almost all installations are located in accessible locations close to centres of agricultural processing and route networks of communication to the nearest urban centre. By populating the landscape of Akte in this way, we clearly see that the landscape is not fragmented nor are the majority of its sites isolated. Rather, it appears that the landscape of Akte and its sites are very well connected.

Turning to Methana, in Chapter 3 I discussed that the position of installations in Methana is related to the land that was being farmed, rather than in the Akte peninsula where they are found in close proximity to simple rural sites. In the majority of cases, installations are located away from sites which may be deemed as supporting domestic activity for those farming the land. Furthermore, the evidence of numerous amphorae from the rural sites suggests that there was a greater degree of movement between installations, domestic rural sites, and the city. Here it is necessary to examine how this movement could be realised by examining the ease with which one could move through the landscape. In Figure 4.14, the least-cost paths illustrate routes, which

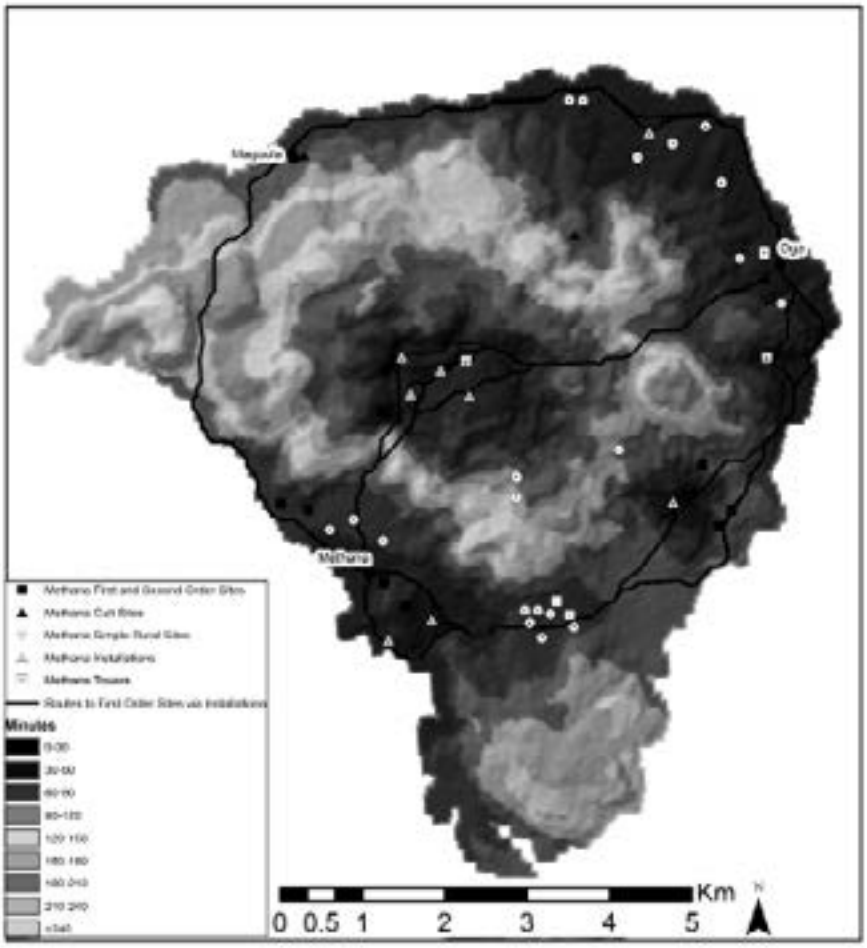


Fig. 4.14: Distance in minutes from installations in the Methana peninsula and least-cost paths via installations.

connect Methana, Oga, and the installations within the interior of the peninsula. This map highlights that other farmstead types, such as simple rural sites and towers, are accessible to installations within 2 hours, which indicates that installations served a number of other farmsteads within a 2-hour radius. Even though the central cluster of installations are accessible from Oga and Methana, the cost in time and effort is very high, which clearly was not a deterrent for those wishing to avail themselves of the prime arable soil. The several pressing installations and the presence of a large tower complex here also suggest that this was an important area for farming and movement of agricultural goods through the peninsula. Furthermore, the longevity of the sites in this area, dating from the Classical to Roman periods, indicates that this particular part of the landscape was agriculturally significant for those farming

the land. The routes to installations suggest that Methana's rugged terrain was not a hindrance to the processing and movement of goods through the landscape. The position of installations on roads gives the impression that those moving through the landscape were visually aware of the agricultural work being carried out. Therefore, this model suggests that despite the difficult nature of the landscape, installations were accessible from other site classes and then to major roads and trading centres within Methana.

Viewsheds from the Akte and Methana peninsulas

Figure 4.15 illustrates the extent of visible land from the city borders of Halieis, Mases, Hermione, and second order sites. It will be noted that the extent of visible land is much greater from Halieis and Hermione than it is from Mases. From Halieis the extent of the visible range includes most of the southern tip of the Akte peninsula, suggesting that visibility inland appears to be as important as the visibility towards the sea. Hermione, on the other hand, has greater visibility of the sea and the surrounding coastline than Halieis. The survey report notes that visibility of the sea from both Hermione and Halieis may be related to both cities' importance as centres for maritime trade. Also historically, the Akte region was an area of activity for Athenian and Spartan ships during the Peloponnesian War (Thucydides, *Peloponnesian War* 1.105.1;

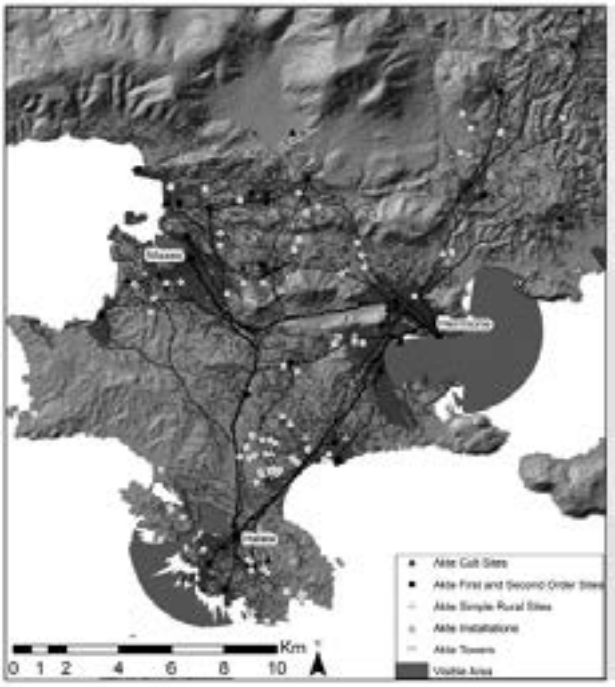


Fig. 4.15: Extent of visible land from first and second order sites in the Akte peninsula.

Diodorus Siculus, *The Library of History* 11.78). Therefore, the visibility of the coast from cities would be paramount for their security and defence. In terms of the second order sites, the visibility appears to incorporate the surrounding landscape; in particular, it seems that visibility incorporates the 30 minute radius of accessible land, as discussed above. This means that those living within these second order sites had visibility over clearly defined areas of land. This visibility may relate to a need to monitor crops, animals, tools, and structures located within the surrounding countryside. Finally, where the three urban centres have limited visibility over farmsteads in the interior of the peninsula, it is clear that second order sites share the same visibility over the landscape as simple rural sites.

With regard to the visibility of land from simple rural sites, Figure 4.16 illustrates that the shaded area around most sites is not extensive and falls below the 3 km radius incorporated into the analysis, suggesting that farmers chose these sites for their proximity to arable land, rather than extensive views of the countryside. A similar pattern emerges in Boeotia, for example, where sites with limited visibility may have overlooked their own farming land (Howard 2007, 114–115). Equally it is possible that farmers used fragmented plots of land either to exploit environmental niches or because of the nature of partible inheritance (as discussed in Chapters 2 and 3). Therefore, the visibility from these sites may reflect the original extent of

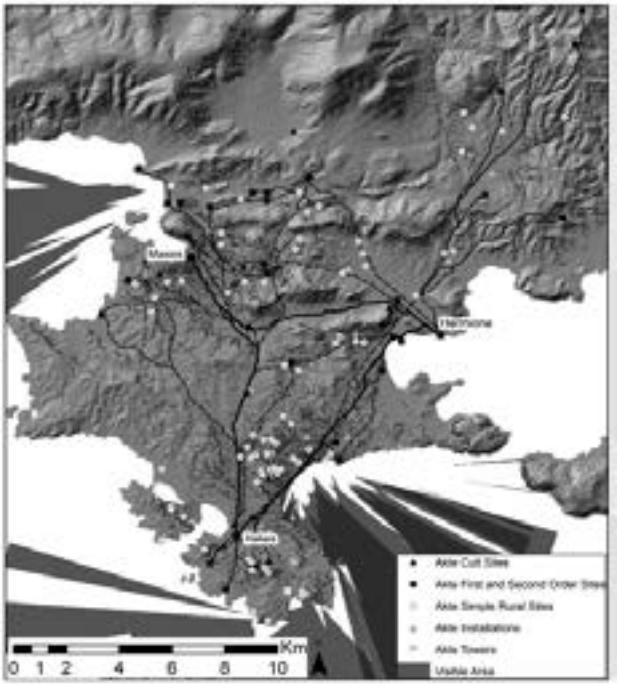


Fig. 4.16: Extent of visible land from simple rural sites in the Akte peninsula.

cultivated land associated with the farm, but in all likelihood farmers, cultivated several fragmented plots. Secondly, visibility from the majority of simple rural sites incorporates views over the GIS-generated ancient routes between the three cities. This illustrates quite clearly that there was shared visibility between those farming the land and those moving between the major towns of the Akte region, which in turn created an opportunity for trade and early warning of attack. The landscape around the cities themselves and sections of the roads connecting them are very visible from the corresponding simple rural sites. As demonstrated in the shared visibility between sites of various classes and roads connecting first and second order sites. This suggests that the placement of sites in the landscape may have been intentional, either for good farming land or for excellent visibility of the main routes. Visibility of roads and their accessibility had important economic implications for the farmer for the sale, trade, and transport of agricultural produce, as we shall see in the following chapter.

In comparison to simple rural sites, Figure 4.17 illustrates that installations appear to have a greater level of visibility over the landscape. Importantly, the viewsheds indicate that other site classes fall within their visible range. In a number of instances, the area visible from these sites incorporates several simple rural sites, which in turn suggests a shared visibility of land and site classes which

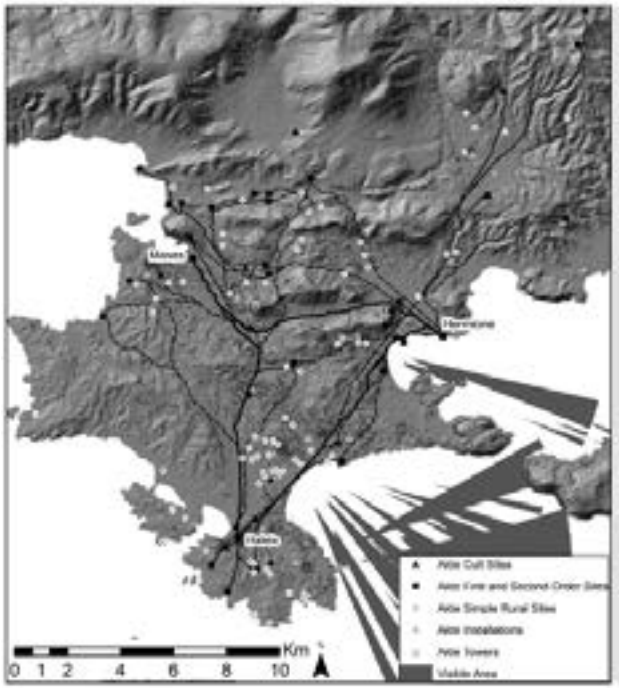


Fig. 4.17: Extent of visible land from installations in the Akte peninsula.

Table 4.2: Labour requirements for pre-mechanised arable farming (Halstead 2014, 182)

Task	*Labour (days)*
Tillage/sowing 0.8ha	27–80
Reaping	8–10
Manual threshing	3–8
Dehusking	3–8
Grain cleaning	20
Grinding to flour (3hrs per day)	130
Total	61–156 days

implies that installations were localised entities servicing a number of farms in their vicinity, (as discussed in Chapter 3). It is also reasonable to assume that visibility to and from installations would be important, particularly during harvest and processing time. These were periods of the year when agricultural demands required continued presence and labour on the land. This is evidenced in Halstead's recent study on pre-mechanised farming practices in Greece, which provides helpful analogies concerning the amount of time and effort it takes to produce grain for one household. Above is a summary table (Table 4.2) of the labour requirements for the tilling, sowing, harvesting, and processing of 800kg of grain, enough to support one household (Halstead 2014, 182).

The time stress on farmers would be considerably higher if they were engaged in olive cultivation in conjunction with arable farming, since the olive harvest falls at the same time that arable crops are planted (Foxhall 2007, 78). The fact that the agricultural calendar demanded a considerable amount of time and energy implies that farmers could not be away from their farms for prolonged periods of time. Halstead's (2014) book recounts near continuous work by farmers during periods of ploughing, planting, and harvesting. For a subsistence farmer a policy of mixed crops (grain and olives/vines) along with some animal husbandry helped reduce the risks associated with crop failure (Gallant 1991, 36–39; Halstead 2014, 314–315). Depending on the socio-economic circumstances of the farmer, the farm labour demanded considerable attention and time. Slave labour could of course be used, for instance the wealthier classes of society employed large forces of slave labour (Morris and Papadopolous 2005; Foxhall 2007). Even poorer classes of society managed one or two slaves, and in Menander's *Dyskolos,* the poor farmer and his slave work the land side by side. However, the majority of farmers, who fell somewhere between the very wealthy and landless classes, would have had to rely on their own labour and those of family members during times of intensive labour (Scheidel 1995, 204). This continued presence of farmers on the land during peak times of the agricultural calendar illustrates why visibility would be key, especially from centres for the processing and

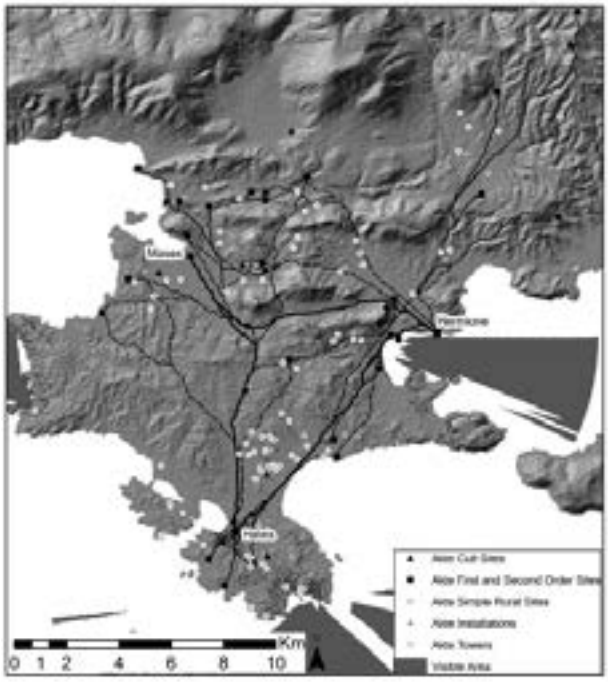


Fig. 4.18: Extent of visible land from towers in the Akte peninsula.

storage of agricultural goods. This visibility would incorporate awareness of traffic to and from these installations not only for agricultural purposes, but also for the protection of valuable equipment and produce.

Relating to the role of towers in the Akte peninsula, the survey report concluded that the majority of these towers served a defensive role for 'well-to-do' farmers, and that on the whole, even towers located on the coast were associated with agriculture (Jameson *et al.* 1994, 396). Therefore, towers served as a lookout and storage space in times of peace and a site for safety and protection during attack. Based on this role it would be important, for towers to have reasonably good views of the surrounding landscape. Figure 4.18 illustrates the land visible from towers and suggests two trends. Firstly, some towers have limited visibility across the landscape in comparison to other site classes even with the added offset height of 4 m. Therefore, it is difficult to argue that these towers, particularly inland towers, had a role as signal towers across the countryside. Secondly, tower Akte Tower 4 has no visibility towards Mases and limited visibility along the route between Hermione and Halieis. However, the viewshed has good visibility over the simple rural sites and installation sites in the vicinity, suggesting that this tower had an agricultural role rather than a defensive one. In contrast, Akte Tower 3 has visibility only along the coast and out to sea; it is therefore probable that this was a watch tower. Furthermore, Akte Tower 1 and Akte Tower 2 have similar visibility trends as site Akte Tower 3, indicating similar roles. It is noteworthy that

most of the towers have limited visibility of the countryside, but on the whole, they have high visibility of the coast and sea. Therefore, the viewsheds from towers reflects a need to maintain visual awareness of the coast for the purposes of defence.

Two important points come to light from the study of viewsheds in the Akte peninsula. Firstly, the viewshed maps illustrate that site classes in the Akte region are visible to and from each other. This indicates that those working the land would be visually aware of one another and of movement through the landscape. But importantly for simple rural sites and installations, visibility of the landscape was not a deciding factor in site placement. This is in contrast to the visibility from towers. Visibility of the coast and sea, it seems, were important considerations for the position of towers in the Akte peninsula. This analysis has highlighted the visual connectivity and awareness of people working in the landscape between different site classes, and also importantly the visual awareness between sites in the landscape and the routes facilitating movement through the territory.

Turning to Methana, Figure 4.19 illustrates the extent of visibility from first and second order sites on the Methana peninsula. There is good visibility of the plain around the city of Methana, incorporating the city itself, routes around Methana, and the surrounding landscape. As the image illustrates there is even greater visibility northwest towards the direction of the ancient harbour at Vathy; visibility of the harbour would have been important not only for the movement of goods



Fig. 4.19: Extent of visible land from first and second order sites in the Methana peninsula.

and people for trade, but also for protection and defence. The Methana viewshed also has relatively good visibility towards the land approach to the isthmus of the peninsula. The placement of a number of forts in this area and the strengthening of walls at the isthmus highlight its strategic importance. The characteristics of the city's visibility suggest that there was need for visual awareness of the sea, interior of the peninsula, and the only land access route. Concerning the visibility around Magoula, located on the northern tip of the peninsula, does not have good views of the interior. This is due to the high mountain range, which ascends steeply from the border of the town. The viewshed map highlights that Magoula has views along the coast to the east and west. This implies that the town had good visibility of people approaching by road in both directions. The sea north of Magoula, is an important shipping route not only for trade, but also for defence, and monitoring of this area would be imperative (Forbes 1997, 115). The presence of island polities, and of Athens so close and accessible to Methana by sea, means that it would have been necessary to be visually aware of these shipping channels. The visibility around Oga indicates that the city had visibility along its coastline and the route connecting the city to the interior of the peninsula. Finally, the visibility from the few second order sites appears to be focused on the routes through the peninsula, particularly between Oga and Methana. In conclusion, the viewsheds from the urban settlements indicate that the location of all three urban centres have views of the surrounding coast and sea, but very little of the peninsula's interior, which has obvious implications for the movement of people for trade, labour, and defence.

From Figure 4.20 it seems that all simple rural sites, except for three, are located on or near the GIS-generated routes between the three urban centres. Secondly, the sites appear to have good visibility of the surrounding countryside. The cluster of sites (Methana SRS 1–5, and 10) located at the south of the peninsula on the route between Methana and Oga have visibility over the route, and are located close to the towers Methana Tower 3 and Methana Tower 6. In the discussion of simple rural sites' viewsheds from the Akte region, I suggested that the land visible from these sites might indicate the land each site farmed. In the case of the Methana survey, much fewer simple rural sites were identified, and all are concentrated on the coast along the routes between each urban centre. We *could* conclude, that the land visible from these sites was cultivated by those occupying the simple rural sites. But considering the amount of terracing throughout the peninsula dating from the Classical period onward, and the presence of several installations within the interior of the peninsula, it is likely that farmers worked the land in the interior of the peninsula, which was not visible from the simple rural sites. Furthermore, in contrast to the Akte peninsula where there was a correlation between simple rural sites and installations due to their shared visibility and proximity to each other, the same cannot be said for Methana, where the extent of visible land implies that visibility of roads and accessibility of sites were more important than proximity to farmed land or installations.



Fig. 4.20: Extent of visible land from simple rural sites in the Methana peninsula.

Referring to installations (Fig. 4.21), those located on the routes between the urban centres have good visibility of roads and the surrounding landscape. It stands to reason that these installations would be visible to and from the road for accessibility, trade, and communication. There are a few installations close to simple rural sites, for example to the north of Oga, and because of their proximity and shared visibility they may have been connected. However, the clusters of simple rural sites located in the south of the peninsula are not intervisible with any installations. These results indicate that there was limited site intervisibility and connectivity in Methana between simple rural sites and installations. For Methana, due to the limited intervisibility of site types, it seems that there is a different method of agricultural activity to the one suggested in the Akte peninsula. Whereas in the Akte peninsula there were sites which served dual purposes for occupation and processing, in Methana there was a distinction between sites for occupation and those for agricultural processing. Additionally, the fact that several installations have visibility over the same territory in the centre of the peninsula suggests that this land was farmed by several separate farmers rather than belonging to the territory of one simple rural site. The archaeological evidence confirms this conclusion. The large number of amphorae for the transport of agricultural produce suggests that goods were produced and transported to other sites in the peninsula rather than stored in simple rural sites nearby.

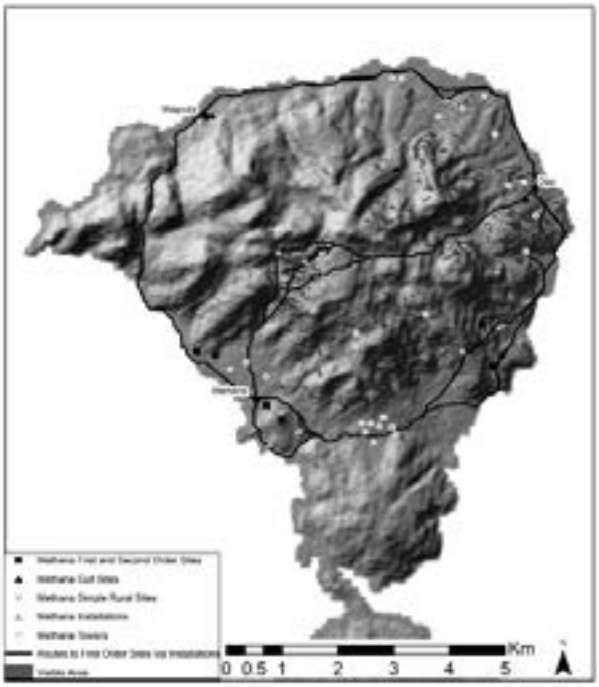


Fig. 4.21: Extent of visible land from installations in the Methana peninsula.

Regarding towers, Figure 4.22 illustrates that the position and visibility from towers in Methana compared to Akte is striking. First, most of the Methana towers are located inland in comparison to the coastal Akte towers. Secondly, the Methana towers appear to have much better visibility across the peninsula compared to the Akte. The surveyors note that both towers Methana Tower 6 and Methana Tower 5 played similar roles as watchtowers, despite the presence of a press bed (Methana Installation 9) at Methana Tower 5, on the major routes between Methana and Oga (Gill *et al.* 1997, 66). Therefore, visibility from these towers was related to a defensive network in the peninsula. Nevertheless, three of the towers have evidence of installations connected to the pressing of olives. Two of these towers Methana Tower 2 and Methana Tower 4 could be classed as towerhouses and may not be directly related to defence, but rather have a function more akin to the Vari house. The presence of installations at sites with substantial structural remains and walls similar to those of the Methana acropolis, suggests that some towers may have had two roles: defence and the processing of agricultural goods.

Two features emerge from the discussion of the Methana viewsheds. Firstly, the inhabitants of the urban centres of Methana were very visually aware of their coastline and the limited historical evidence we have for the area describes the peninsula as a choice location for the positioning of troops in both Classical and Hellenistic Greece (Jameson *et al.* 1994, 78; Gill *et al.* 1997, 73). Furthermore, textual



Fig. 4.22: Extent of visible land from towers in the Methana peninsula.

sources illustrate that Methana and Troizen (in the Argolid) exploited tuna fishing (*IG* IV² 1.76, II.8) and salt ponds (*IG* IV² 1.76) off the coast of the peninsula (Bresson 2015, 181–183). This evidence allows us to draw a fuller picture of the variety of economic activities on the peninsula and their shared visual awareness of the landscape. Therefore, with the help of the viewsheds, it is possible to reconstruct the visual awareness of those inhabiting the peninsula for the movement of ships, fisheries, and workers around their coasts, which may have direct implications for agricultural trade and exchange. This visual awareness from sites of their surroundings also has implications for the movement of trade and communication beyond Methana, as well as the defence of the peninsula. Secondly, the extent of visibility between sites is not as consistent at Methana as in the Akte. This may be due to the nature of the landscape, but it may also indicate different trends in the production of agricultural goods.

Conclusion

In the previous chapters, I emphasised that the archaeological data for farmsteads denoted a greater degree of variety in the activity at sites ranging from year-round occupation to intermittent short visits connected to the storage and processing of agricultural goods. Therefore, the archaeological data alone give us valuable evidence

as to activity in the countryside connected to agricultural industry in individual territories. By applying GIS technology to model the agricultural landscape using the archaeological data, I planned to study how agriculture was realised by mapping the visibility of the landscape and its accessibility for farming. The previous chapters, applied the archaeological and textual data to construct a picture of farming practises, and in doing so, it became clear that it is very difficult to assign *one* type of farming system or *one* type of site to any particular territory. The variety of site types in the landscape, taking into account ceramic taphonomy, in all likelihood reflects the socio-economic circumstances of the farmer.

The purpose of this chapter, then, was to investigate the temporal and physical realities for those farming the land by modelling the visibility, routes and cost of travel for those moving between sites types and the urban centres. This analysis has highlighted that the landscape in the two areas had differing cost values depending on the nature of the terrain. But despite the added physical effort in some of the areas, the results suggest that farming formed a cornerstone of the economic objectives for individuals in each territory. The results of the least-cost path analysis have shown, particularly through the overlapping of GIS-generated routes, that some parts of the landscape could be considered to have been high traffic areas, which might go some way to explain the positioning of installations and other farmsteads along them. This phenomenon has been noted in other studies, and further archaeological investigation of these areas may prove fruitful (Fachard and Pirisino 2015). The models of routes and distance help to explain how the differences in the socio-economic strategies of the Akte and Methana peninsulas manifested themselves. The ease of access throughout the Akte peninsula, which is characterized in certain areas by the presence of larger sites (some with associated installations), and in other areas by clusters of occupation sites around installations, indicates the variety of economic goals amongst the Aktean farmers. Nevertheless, the proximity of these sites along routes through the peninsula indicates that no matter the level of self-sufficiency of the farmer, they were not isolated in the landscape. At Methana, the clustering of installation sites at a distance away from other rural site types and urban centres suggests that several farmers were processing crops close to where they were grown before transporting them to habitation sites. It is clear that there are different socio-economic factors at play in each of the regions based on the available evidence for storage and domestic activity in the landscape. Furthermore, the difference in storage material in these regions may suggest different trading activities. By modelling these routes and the cost of travel through the countryside, we can visualise and understand in very real terms the temporal and physical energy needed to be a successful farmer.

Similarly, the visibility analysis has helped highlight that certain parts of the landscape, particularly those around installations were areas of shared visibility between different site types, illustrating the need of farmers to be visually aware of processing centres. It stands to reason, considering this was a vulnerable time for

those farming the land, that the successful processing of crops provided security for the coming year and that the need to maintain a visual awareness of the sites where individuals and communities were processing crops would provide assurances for those farming the land. This is best demonstrated in the presence of a tower close to the several installation sites in central Methana. Visibility and monitoring of prime agricultural land and expensive pressing equipment provided a sense of security for farmers during harvest and processing. These modes illustrate a connected landscape, in terms of both visibility and accessibility. The implications of this for agriculture in the region are that farming was an organised activity, with those farming the land making conscious choices about how they worked the land within a framework, which was connected visually, and with ease of access to wider economic markets.

Chapter 5

Farming and the ancient agricultural economy

Introduction

In terms of who was farming the land, it is difficult to single out a normative farmer in the textual or archaeological record, primarily because every class of society from slave, to *metrios* citizen, and wealthy individual can be termed a farmer. Thus, it seems then that the term 'farmer' is quite fluid and can be applied to individuals of varying socio-economic status in society. Does this imply then that, unlike today when farming is a clearly defined profession, individuals could engage in farming activity along with other crafts, and still be termed a farmer? In some instances, it appears that individuals could employ other types of economic activity in addition to being farmers. As such, Ischomachus believes himself to be a farmer when he is visiting his farm, but he spends an equal amount of time in the city, whereas the farmer in Menander's *Dyskolos* wants to farm the land alone, and the character of the young-buck who wishes to court his daughter attempts to farm to gain the father's approval (369–370). Therefore, the character assumes the role of a farmer for a short period whereas the father is a farmer full-time. It is entirely feasible that individuals depending, on their needs and wants, assumed the duties of a farmer to varying degrees. And unlike in the *Dyskolos*, the purpose is not to woo a pretty maiden, but rather ranged from providing their family with basic necessities to those wishing to maximise their economic success.

In this chapter then, I examine the role that farming had in the ancient economy, and ask to what extent households of different socio-economic statuses engaged solely in farming or in combination with other economic activities. This discussion will illustrate that the agricultural economic landscape is as complex and varied as the physical one, and from that conclusion the discussion moves on to the archaeological and textual evidence for the trade of agricultural produce with an emphasis on the role of farmsteads as facilitators in this exchange. The purpose of this is to reconstruct how, when, and by whom agricultural produce could be bought, sold, and exchanged through 'microregional connections' (Bresson 2005, 95–96). In this chapter, the phrase 'microregional connections' is understood to describe the movement of goods (in this case agricultural produce) and the places, either temporary or permanent, where these goods could be bought, sold, and/or exchanged within a single region in this

case the territory of a *polis*. Importantly, I do not explore the wider economic trends in mainland Greece in the Classical and Hellenistic period, as I explain further below, that broad, complex, and difficult topic has been discussed at length elsewhere (e.g. a very small selection from the corpus include Hopper 1979; Garnsey *et al.* 1983; Meijer and vanNijf 1992; Parkins and Smith 1998; Finley 1999; Bresson 2000; 2015; Chandezon and Hamdoume 2004).

Economic theories and models

In the introduction to *The Cambridge Economic History of the Greco-Roman World,* the editors address the bipolarity of the debate about which theory best suits the nature of the ancient economy (Morris *et al*. 2007, 2). Although, each theory, and the resulting debate and criticism of that theory, leads to more robust conclusions, they also acknowledge that the nature of the debates has become stultifying. Equally problematic, is that often the popularity of theories with researchers of the ancient economy reflects current trends in modern economic theory (Morris *et al.* 2007, 5). Although for some, these theories have fallen out of fashion in recent research to do with the ancient economy, some still continued to engage with and favour one model over another (for example Moreno 2007 on Athenian agriculture; Whitby 1998). In terms of this chapter, however, my emphasis is on what the archaeology can tell us about farming practices, and in turn the agricultural economy. Research on the ancient economy, including agricultural economy, has often addressed the subject either through the textual or ethnographic evidence (for example Garnsey 1989; Gallant 1991). The archaeological evidence, when used, has been applied sporadically, understandably so since there are several imbalances between the literary and archaeological evidence. On the one hand, the data from archaeological survey can give great insight into role of farmsteads in the landscape for economic purposes, but on the other hand, the territories surveyed may be lacking adequate textual evidence to support the conclusions reached in the survey report. Conversely, the vast majority of our textual data comes from Athens, an economic anomaly in its own right, the archaeology of which, particularly relating to farmsteads, is somewhat limited to certain areas of Attica.

One of the key problems when trying to study the ancient Greek economy concerns how realistic it is to generalise about the workings of the ancient economy and then apply these generalities to hundreds of *poleis* with different political and social governors (Cartledge 2002a, 13). The researcher must tackle questions such as what do we mean by economy? What type(s) of economy did the ancient Greek world have? Is it possible to define it as a single economy, or is it made up of more than a thousand micro-economies? These questions, and more, have been the topic of numerous articles, conferences, and books over the past three decades (e.g. Parkins and Smith 1998; Archibald *et al.* 2001; Cartledge *et al.* 2002; Bresson 2015). The purpose of this section is not to repeat what has already been written about the nature of the ancient economy. But it is important to provide a brief intellectual context for the

forthcoming discussion by addressing some of the major theoretical issues concerning the study of the ancient Greek economy.

In broad terms, the debate about the nature of the ancient Greek economy can be divided into two distinct approaches. The first addresses the question of what we mean by ancient economy. For 'primitivists' the Greek economy was characterised by closed, self-sufficient households. This meant that the economy never evolved beyond small-scale trade because of the lack of demand (see Morris *et al.* 2007, 2; Morley 2007, 4; Cartledge 2002a). This theory has been contrasted with 'modernists' who argued that the ancient economies were like those of early-modern pre-industrial societies, and performed at a similar level (Morris *et al.* 2007, 2). The debate has not come to any consensus, as Cartledge puts it, because primitivists focus on 98% of ancient Greek society while modernists focus on the 2% whose wealth originated in macro-economy activity (2002a, 14).

The second approach is formulated by theoretical models used to examine the nature of the ancient economy, and is divided between 'formalists' and 'substantivists'. For 'formalists' the ancient economy was an independent entity removed from production for subsistence only and driven by a 'profit-maximising, want-satisfying logic and rationality' (Cartledge 2002a, 15). Meaning 'formalists' adopt the idea that the 'principles and practices of neoclassical economic theory are universally valid and applicable' (Morley 2007, 11). For 'formalists', therefore, the economic activity was removed from social mores which might restrict trade. This position has been countered by the 'substantivists' who argue that instead of the ancient economy being a removed, independent entity it was 'not merely less developed but socially embedded and politically over determined and so – by the standards of neoclassical economics – conspicuously conventional, irrational, and status-ridden' (Cartledge 2002a, 15). In essence, the debates are complex and there is no real consensus within modern scholarship about which of these opposing theories describes the ancient economy accurately. In reality it appears that the evidence as it stands is too limited and far too heavily biased towards the Athenian economy (which by all accounts is an anomaly due to its size and reliance on imports) to provide insight into the thousands of micro-economies mentioned at the beginning of this section (Morley 2007, 12).

A third method of understanding the nature of the ancient Greek economy has also gained traction over the past century, namely economic anthropology. Particularly relevant to this discussion is the work of Karl Polanyi (Polanyi and Dalton 1968; Polanyi *et al.* 1957) whose main thesis is that trade in antiquity, particularly exchange transactions, were embedded in social relationships, with a focus on reciprocity between the two parties (Davies 1998, 236). This concept that trade in ancient Greece was conducted in a large part through exchange and reciprocity, has been explored by a number of scholars (see von Reden 1995; Gill *et al.* 1998) and it is clear that formal exchange of products should be considered part of the corpus of ancient Greek economic theory and practice. In addition to this, Polanyi's work has paved the way for researchers to turn their attention away from the urban centres and markets

towards economic activity within the landscape (Davies 1998, 237). This in turn has spurred research into the 'peasant' economies of both ancient and modern Greece (see Gallant 1991; Foxhall and Forbes 1996). This book has already set out that there was diversity in farming systems, habitation, and structures and it stands to reason then that there was also diversity in the agricultural economy in any one landscape (Davies 2005, 134).

Davies' model, building on Polanyi's earlier work, illustrates economic behaviour in ancient society at different levels of economic complexity, ranging from local to long distance trade. In terms of this discussion, his model helps to chart the various types of movement of goods between producer and consumer. An important aspect of this model is the concept of *flows* in which every movement (exchange of goods or services) comprises of a change of its real or symbolic location (Davies 2005, 140). This model positions itself nicely in a space, which allows the differing theoretical ideals discussed above to work within a single economic market. To help visualise the various types of transactions the flow diagram below illustrates resource movement based on a local level. Figure 5.1 illustrates the flow of resources on a 'microregional' level between the household/farmstead to local markets.

From Figure 5.1, a series of transactions can be identified including: within individual households, between households (exchange basis), and between households and periodic markets/fairs (Davies 1998, 244–248). This model allows for different types of economic activity (subsistence and market-driven) to coexist within one space. Creating flow diagrams like Figure 5.1 allows us to map the network of channels for the flow of resources within a space (Davies 1998, 246). The following sections will explore in detail the flow of resources from the subsistence or market-driven

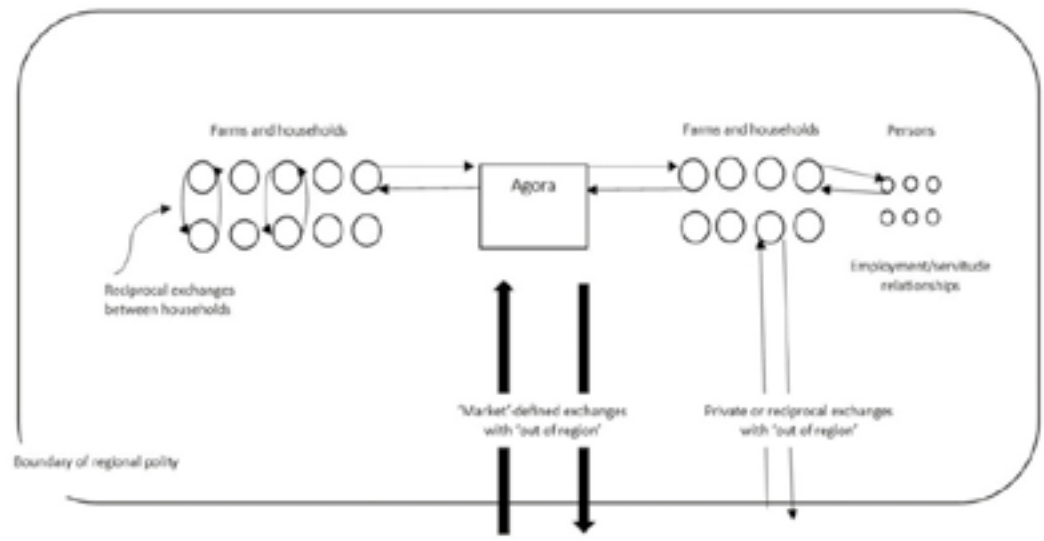


Fig. 5.1: Flow of resources from a household/farmstead unit (after Davies 2005, 143).

farmer to various types of markets, and finally discuss the various types of trader and consumer of agricultural produce. Finally then the study of ancient economic theory is complex, and in reality there were a variety of models employed based on the needs of the individual and state. For the remainder of this chapter I focus on what the archaeology of farmsteads can tell us about the role of farming in the ancient economy, before moving on to discuss the types of farming, mobility to markets, and transport.

Farming and the ancient economy

The question to what extent and in what ways farming might have been combined with other economic activities is open to the same issues, which effect the application of economic models of the ancient world. Particularly, can we say that in *all* periods and in *all* territories, the conclusions reached here were applicable? The short answer is probably not. But using the archaeological and textual data of particular periods and territories we can draw conclusions about how people integrated or specialised in farming as part of their economic activities. It is also important to understand that no matter the socio-political organisation of individual territories agriculture formed the foundation of the ancient Greek economy. The right to have land, through ownership or leasing, was a fundamental right of a citizen in ancient Greece. The available leases, law court speeches, and archaeological evidence are testament to the importance that land had to the ancient Greek. For some, ownership of land was a sign of citizenship, and in turn, the size of the land owned was a sign of an individual's wealth. For example, Solon's economic and political reforms (570 BC) of Archaic Attica were based on the creation of four property classes, the divisions of which are based on the amount of produce from land; such as, members of the wealthiest (*pentakosiomedimnoi*) class could produce 500 measures from their land, enough to feed 15 families for a year (Raaflaub 2007, 120). Land ownership, and equal distribution of land, was a key desire for individuals in Greek colonies such as Kyrene, as well as on the Greek mainland, from the Archaic period onwards (Raaflaub and Wallace 2007, 44). Therefore, land and agriculture were inherently embedded in the cultural framework of ancient Greek society.

As already discussed in Chapter 2, the physical geography of mainland Greece played an important role in the choices individuals made regarding their economic activities, and the archaeological and textual evidence in the previous chapters suggests that farmers adapted their farming practices depending on the nature of the landscape. For instance in Methana, the steep and rocky nature of the landscape made farmers work fragmented plots of land scattered throughout the peninsula, whereas landscapes with gentler slopes and valleys supported contiguous plots of land such as in Laconia. Of course, the social organisation of each of these territories also influenced how and by whom the land was farmed, but undoubtedly, the nature of the landscape played a part. This theory is brought into stark relief in the case

of Attica. Concerning the extent of vegetation in antiquity, early scholars believed that before human intervention Attica presented an 'edenesque' landscape of lush and continuous vegetation and that the barren hill tops resulted from extensive land clearance by humans. This belief in part stems from, and is reinforced by, comments in Plato's *Critias* where the speaker describes the extent of tree coverage and soil quality in the Attic countryside:

> But at that epoch the country was unimpaired, and for its mountains it had high arable hills, and in place of the 'moorlands,' as they are now called, it contained plains full of rich soil; and it had much forestland in its mountains, of which there are visible signs even to this day; for there are some mountains which now have nothing but food for bees, but they had trees a very long time ago, and the rafters from those felled there to roof the largest buildings are still sound. (111b–c)

Moreno's recent study on the Athenian grain supply argues that the archaeological and textual evidence supports the assumption that the crop yields from Attica were not enough to support the needs of the population (Moreno 2007). Following Osborne who concludes, that the extent of cultivable land in Attica, only 40% of the land was used for agriculture (1987), which falls short of the amount of land needed to support the population of Attica. Moreno, therefore argues that Athenians needed to import grain from the Black Sea region during the fourth century BC. This conclusion has been contested using both the textual and archaeological evidence (see Tsetkhladze 2008; further papers in Alston and van Nijf 2008). In the case of Attica, there perhaps will be no definitive conclusion concerning the extent of cultivable land and the extent to which Attica could support itself. One of the problems with attempting to reconstruct the nature of soils via ancient texts such as Plato's is that it has led to an *ecological fallacy* about the extent of vegetation coverage in the ancient Greek landscape (Rackham 1991, 96; see Grove and Rackham 2001, 8–22; Rackham and Moody 1996, 10–11). These scholars reject the notion that the countryside before human intervention was 'edenesque', with extensive tree coverage and no erosion. Instead, it is possible that these processes are cyclical in nature and human interference in the land is not solely to blame for changes in vegetation cover and soil erosion (Shiel 2000, 60–61).

Certainly, the physical morphology of the landscape influenced how farmers worked the land and the extent to which they participated in farming, which in turn might suggest that it was necessary to find other means of income to ensure economic success. In Arcadia, the physical geography influenced the economic activity pursued by individuals (Roy 1999, 320). Arcadian farming practices, included the cultivation of cereal, olives, vines, fruits, vegetables, and animal husbandry, there is additional information of the economic activity employed by those living in Classical Arkadia in the keeping of cattle, sheep, goats, and bees. Other economic activity such as forestry and its associated crafts, pottery production (tiles, bricks, and ceramics), and quarrying is also attested (Roy 1999, 334–338). The rough estimates of population, along with the historical evidence for Arcadia in the fourth century BC, indicate that citizens were given their own plots of land to farm; in addition, the textual evidence reports, as discussed

in Chapter 2, that transhumance of flocks of sheep was also an important aspect of the agricultural economy. Clearly, in Arcadia then, agriculture played an important role in the economy. Roy concludes by saying that '... economic activities [were] dominated by agriculture and animal husbandry' (1999, 356). Was this the case elsewhere in mainland Greece? Returning to Athens, in the evidence from Demosthenes 42, the plaintiff claims that at the farm several cartloads of wood were being carried off daily, suggesting that Phainippos was also engaged in forestry along with agriculture. Ischomachus, too, claims that he provides advice to those farming his land, and in addition, he buys land, improves upon it, and sells for a profit as his father had done before him. Therefore, Ischomachus may be best described as a property developer rather than a farmer. The wealthy, as we have seen, are characterised by a diverse portfolio of economic activity, including but not exclusively connected to agriculture. Regarding the non-elite classes of society, the picture is not so clear. Conceiving of the economic objectives of those engaged in farming on a scale ranging from wealthy to poor, the wealthier classes, due to free time and money to invest, could diversify their economic activity for greater financial gain. For poorer members of society, agricultural success meant, at the very least, familial success, since it was necessary for each individual to grow and consume their own produce. As we saw in Chapter 2 crop diversification was a measure to limit the impact of crop failure on the family unit. In addition to this measure, it is also feasible that farmers turned to other sources of income. Our best source of evidence for additional incomes for subsistence farmers are ethnographic studies on pre-industrial farming practices. For example, ethnographic studies on Methana conclude that, for additional income, farmers could produce material such as charcoal and lime to sell in the urban centres (Forbes and Koster 2000, 269). There is textual evidence for the production and consumption of charcoal as a burning agent in ancient Greece. In Aristophanes' *Acharnians* the deme members provide charcoal for Athens and in Menander's *Men of Arbitration* the slave, Syriskos is tasked with making charcoal for the landowner (407–408). Similarly, an inscription from Teos (dating to the fourth century BC) regulates the production of wood and charcoal in an upland area which was to be transported using carts to the market for sale (Bresson 2015, 75).

The conclusions reached here stress that land ownership was integral for the ancient Greek not only as a cultural indicator of their status but also to ensure the survival of their family unit. On the whole, then, the majority of individuals would consider themselves farmers, but unlike our notion of professional farmers engaged solely in crop production or animal husbandry, it is likely that ancient farmers also engaged in economic diversification such as the production of charcoal, pine resin, and trade, to lessen the impact of failed crops or other agricultural disasters.

Subsistence and market-driven farming

The archaeological evidence from smaller rural sites, particularly those with evidence for large storage containers, might indicate subsistence farming for self-sufficiency.

In this model the farmer, perhaps a member of the hoplite/yeoman class, farms the land to provide enough food to support himself and his family with a surplus, which can be stored for times of food shortages or crop failure. Furthermore, the farmer would want for nothing from larger markets and therefore have little connection to the larger economic life of the area. In reality, however, how accurate is the image of the completely self-sufficient farmer, like the farmer in Menander's *Dyskolos*? Bresson writes that 'the myth of complete self-sufficiency should now be rejected: *autarky* was an ideal, not a reality' (2005, 104). This sentiment has been repeated by a number of authors concerning the extent of self-sufficiency within ancient Greece (see Nixon and Price 1990, 166; Horden and Purcell 2000, 120). This does not negate the fact that the majority of farmers produced their own foodstuffs. Instead, it means that farmers were involved in a wider market economy, at least locally, to acquire additional commodities (e.g. metal tools, ceramics, and additional foodstuffs) which they themselves could not produce. The types of trade undertaken by subsistence farmers may have included exchange of surpluses via neighbours or market exchange. In the case of Hesiod, it seems that both forms of exchange are possible. In the instance when one may suffer a food shortage, through incompetence, laziness, or climate Hesiod advises:

> Take fair measure from your neighbour
> and pay him back fairly with the same measure,
> or better, if you can so that if you are in need afterwards,
> you may find him sure.
> ...
> give to one who gives, but do not give to one, who does not give.
> (*Works and Days* 349–355)

This quote illustrates the reciprocal system in place between neighbours in the countryside for the exchange of goods. As mentioned in the introduction to the chapter, research based on anthropological economics has provided further insight into the different types of exchange networks within ancient Greek society (see von Reden 1995). In addition, as illustrated in Davies' flow diagram, it is conceivable that exchange between neighbours formed part of the wider economic network within a community. Similarly, a passage from Hesiod implies that some farmers may have been involved in trade for profit: 'then haul your swift ship down to the sea and stow a convenient cargo in it, so that you may bring home profit' (*Works and Days* 631–633). In Hesiod's case, as the quintessential subsistence farmer eking out a living in Askra, may have been involved, or at least have knowledge of exchange in trade amongst neighbours and trading for profit. Nevertheless, the evidence from Hesiod suggests that the primary goal was storing of foodstuffs to maintain enough food over the coming year. Consequently, Hesiod provides a model of subsistence farming, albeit in the late eighth to early seventh century BC, where the farming surplus can be used to trade at market, but this is a secondary goal to his survival.

In contrast, for market-driven farming, the impetus behind farming practices is profit rather than subsistence. For example, the large Delian farm estates were leased

by elite individuals, perhaps as part of a portfolio of investments, and farmed by a slave labour force (see Chapters 2 and 3). In the *poletai* inscriptions, also, there is an example of a wealthy Athenian who owned a farm on Thasos, farmed by a bailiff, which perhaps provided an income for him (*poletai* 6.55–6; Pritchett 1953, 271). Similarly, textual examples of Phinaippos' and Ischomachus' farms suggest that the majority of the produce was transported to markets for sale rather than stored and consumed by the occupants of the farm. Often these farms are associated with wealthy individuals and with regards to the evidence from Athens, Osborne writes that 'the rich Athenian citizen was heavily involved in the market in order to meet the huge demands for cash which they faced ...' (1991, 138). Therefore, it was necessary for the wealthy Athenian to engage in large-scale farming (as well as other industries). In fact, the case against Phinaippos is an example of one such wealthy Athenian attempting to avoid paying an *eisphora* by stating that Phinaippos is in a stronger financial position because of his two large farm estates (Demosthenes 42.5–6).

Is it then possible to draw inferences about the objectives of the farmer based on the material remains? As discussed in Chapter 3 the best evidence to indicate different types of activity at a site is the presence of structures, installations, storage ware, and to a lesser extent ceramic indicators of wealth (as per Catling 2002). As already stated, the presence of large immovable storage containers (*pithoi*, storage bins, and cisterns) may indicate long-term storage of foodstuffs at a site, which in turn may suggest a degree of self-sufficiency. In contrast, the lack of storage ware combined with the presence of amphorae may denote a greater frequency in the movement of goods, possibly to market. This, coupled with evidence of larger sites with numerous ceramic types, might signify a wealthy site, which in turn may imply a wealthy farmer engaged in market-driven farming practices.

The evidence of different economic practices at the sites from the Akte peninsula provides an interesting discussion to begin with. Out of all surveys of mainland Greece, the largest number of ancient pressing installations were found during the survey of the Akte peninsula, which led the surveyors to conclude that olive oil was an important commodity for Aktean farmers (Jameson *et al.* 1994, 393–394). This conclusion, along with the increase in settlements in the fourth century BC, implied that there was an intensification of farming. The growth in the cultivation of olive trees within the peninsula associated with 'well-to-do' farmers may suggest cultivating olive oil for export to other markets (van Andel and Runnels 1987a, 107–110). Although, in the final survey report, the authors are conscious of other factors that may affect the increase in site numbers and intensification of farming, they conclude that even if intensification was a result of a larger population, the surplus crops provided an opportunity for trade within and beyond the Akte peninsula (Jameson *et al.* 1994, 394). Therefore, it seems that farmers in the Akte peninsula were engaged in the interregional economy through the export of olive oil.

This conclusion has since been called into question in further studies of the survey report, which analysed the viability of 'well-to-do' farmers engaging in cultivation

for export (Acheson 1997). This study identified farmers, based on the archaeological material, of more modest means who 'had their own subsistence as a primary interest' (Acheson 1997, 181). The identification of numerous smaller farms leads to the conclusion that the population increase in the fourth century BC caused a shortage in cultivable land, which in turn meant that the available land was farmed more intensively because less land had to feed more people. Consequently, the majority of the farmers in the Akte were engaged in mixed farming to reduce the risk of crop failure, and any surpluses in intermittent bumper years could be sold off at markets. Furthermore, presses, particularly those found 'at modest establishments' (e.g. Akte Installation 10), was not evidence of cash cropping by individual households, but instead served the entire community during the harvest. The resulting conclusion is 'we should not see such presses as evidence for olives as a motivating force in the economy' (Acheson 1997, 181). In Chapter 3, I arrived at a similar conclusion that smaller sites were sharing presses nearby based on the proximity of installations to simple rural sites. Instead, for subsistence farmers olives were used as a risk buffering strategy. Nevertheless, it is feasible that some larger sites were involved in the production of olive oil for market like Akte Installation 1 and Akte Installation 3 (Acheson 1997, 181). In the case of the Akte peninsula, subsistence farmers were the driving force of the agricultural economy rather than the few large landowners (Acheson 1997, 185). Recent archaeological discoveries and further analysis of the textual data has helped shed further light on the economic activity of the Akte peninsula (Bresson 2015, 361–364). Although Acheson rejects the notion that the large number of pressing installations are indicative of cash cropping, it is clear that olive oil did play a role in the Aktean economy (Bresson 2015, 361). Additionally, the archaeological evidence of workshops for brick and tile making between the cities of Halieis and Hermione, along with a shipwreck loaded with roof tile off the coast of Spetsas suggests that these commodities were another source of income for the Aktean peninsula (vanAndel and Runnels 1987, 105–109; Parker 1992, 309–310; Bresson 2015, 361). Also, importantly for the economic success of Hermione, the city is well attested in textual sources as a producer of purple dye, for example, in Plutarch's *Alexander* (36.1–2), the Greek army found five thousand talents of 'purple from Hermione' at Susa. This suggests that dye from Hermione was a prized and valuable commodity (Bresson 2015, 362). From this evidence then it is conceivable that a portion of the population in the Akte peninsula was engaged in trade with neighbouring *poleis* and beyond, which may have involved the trade of agricultural goods.

For Methana, the limited number of farmsteads dating to the fourth century BC indicates that there was a contraction in the number of rural sites, and that the majority of farmers lived in the urban centres. This, combined with the relatively modest finds at the sites, signifies that the agricultural regime in Methana was subsistence-orientated and unintensive (Gill *et al.* 1997, 66–67). The results of a study carried out on the subsistence farmers of modern Methana (1970s) concludes that: 'storage is *the crucial* point which separates considerations of agricultural *production*

from considerations of *distribution* and/or *consumption*' (Foxhall and Forbes 1996, 70). The storage of surplus was important in ensuring sufficient food supply during winter months and bad harvest years. In the case of modern Methana, up to four years' worth of surplus is stored in households, sometimes away from the main residence, to ensure against theft from raiders attacking the villages and towns. Accordingly, the storage of foodstuffs is an important objective for the subsistence farmer (Foxhall and Forbes 1996, 75–76, 82; Gallant 1991, 97–98). This does not mean that farmers both modern and ancient did not engage in market activity. Subsistence farmers could intermittently engage in the market to sell off produce to free up storage space, buy additional equipment, or to cover unexpected costs (Foxhall and Forbes 1996, 76). The Methana sites have considerably less evidence for large-scale storage in comparison to the other two survey areas. On the other hand, a greater quantity of amphorae was collected in the Methana survey. It is probable that the majority of the farmers stored their produce close to their primary living space, in this case the urban centre. This might go some way to explain the limited evidence of large storage containers. It is likely that the reason for the presence of amphorae was to facilitate the movement of produce between installations, simple rural sites, and urban centres. This movement of goods may equally have been to centres for storage in the town or for sale in local markets. Therefore, in the case of subsistence farmers in Methana, it is likely that they involved themselves intermittently in markets both fixed and temporary in the peninsula. But their primary objective was storage of goods for subsistence.

In the Eurotas valley, Laconia survey area there is a distinction between those farming for subsistence and farming for market based on site size and indicators of wealth in the ceramic repertoire. For farmers in the Eurotas valley, due to the distance from ports and the lack of imported pottery, the area was likely isolated from the larger regional trading of goods. Unlike on the Akte and Methana peninsulas, the conclusions about the economic activities of farmsteads in the Eurotas valley, Laconia survey are based on site size as well as the ceramic evidence. Furthermore, the increased presence of large sites located on schist soils is linked with an increased cultivation of tree crops, particularly olive oil, which suggests a more market-driven economy (Catling 2002, 196–197). This presentation of the economic objectives of farmers in the Laconia region does not do justice to the complexity concerning who might be farming the land – either Spartiate, helot, or *periokoi*. These issues have been discussed at length in a number of articles and book sections (see Shipley 1992, 211–226; Hodkinson 1992, 123–134; Hodkinson 2000; Cartledge 2002b). Here it is sufficient to highlight that there were different economic objectives (subsistence and market orientated) being employed within the Eurotas valley, perhaps carried out by different strata of Spartan society.

Regarding Asea, the survey report notes that 'Arcadia during the Archaic to Hellenistic period was a typical agricultural society,' meaning that the livelihoods of individuals stemmed from agricultural activity (Forsén 2003, 266). The majority of the textual, archaeological, and osteological evidence indicates that the farmers in

Asea were engaged in the farming of barley, wheat, vine-grapes, and fruit, along with large-scale transhumance of sheep, possibly herded across borders of territories. The surveyors conclude that not only were the cattle themselves a source of income, but by-products like milk, cheese, and wool also facilitated trade along the grazing routes (Forsén 2003. 266–267). In Asea also, then, it seems that the majority of farmers were engaged in subsistence farming, however, that does not exclude them from opportunistic trade along grazing routes, and also at other market venues. In the territory of Eretria, grazing of flocks appears to be a factor in the agricultural economy, since flocks from Attica were moved to Eretria during the Peloponnesian War (Thucydides 2.14.1), which implies that there was an infrastructure in place to support these additional animals. It is possible then, similarly to Asea, that in the territory of Eretria, farmers were engaged in cereal production while others with mixed farming and/or pasturing of animals (Fachard 2012, 111). Moving to Sikyon, the archaeological data, from the survey suggests that the majority of the population was engaged in agricultural activity primarily for subsistence; but again, that does not exclude them from engaging in market activity intermittently (Lolos *et al.* 2011, 314). In the cases of Sikyon, Eretria, and Asea, then, we can assume that the majority of farmers were engaged in subsistence farming. Importantly, however, this does not exclude those farmers, from engaging in other market activity or exchange at different times for a variety of purposes.

Roads and ancient markets

Even if farmers are engaged in subsistence farming, that does not exclude them from participating in trade and other market activity intermittently throughout the year. For this to be achievable, it was necessary to have a means of travel and infrastructure available to the farmer. The traditional consensus in modern scholarship is that the movement of goods, and indeed any travel, across the landscape was costly in terms of both effort and time (Casson 1974, 67; Morley 2007, 10; Raepsaet 2008, 581; Megeotte 2009, 118). However, as we shall see, this belief has been challenged thanks to new archaeological research into ancient road systems. Roads were particularly important for the micro-regional agricultural economy, where the majority of the transportation of agricultural goods happened across the land rather than via the sea. For example, in Thucydides for a time the best means of transporting goods from Euboea to Athens had been overland from Oropus through Dekeleia (*Peloponnesian War* 7.28.1). In some cases, particularly within microregions, over land movement of goods was feasible and preferable (Möller 2007, 367).

The textual sources suggest that for the most part roads were well worn tracks and in some cases sections of road were wide enough only to allow one person to pass through at a time (e.g. in Sophocles, *Oedipus Rex* 805–810). For example, Pausanias, describes the nature of a route into Arcadia travelling over Mount Parthenius (*Description of Greece* 8.6.4), which the locals term 'The Ladder' which had steps cut into the rock to aid in the travellers descent (ἡ κάθοδος εἶχεν αὕτη βασμίδας ποτὲ

ἐμπεποιημένας). Other roads in Arcadia however seem to be more passable, for example the *xenike hodos* ('road of the aliens' or 'road leading to foreign territory') is mentioned in a second century BC inscription (*IG* V 2, 443 I.45) and in Polybius (11.11.5). In both texts, the route links Megalopolis with Laconia, and importantly, it is along this route that the Arcadian flocks are seasonally driven (Forsén 2003, 267). In some instances, therefore, it seems that roads were wide enough to accommodate traffic in the form of large flocks of animals and even wheeled transport, as evidenced in the description of the route to Argos from Tegea (Pausanias 8.54.5). Concerning the difficulty of movement across the landscape, Wells, writing about the *Kontoporeia* (an ancient route mentioned in sources running through the Argolid), comments that the name of the route may stem from 'staff' because 'the traveller should be equipped with a staff as the route is an arduous climb' (2002, 70). Nevertheless, in the most part roads were simply tracks which may have had grooves cut into them for wheeled transport where possible (see Raepesat [2002] for the variety of wheeled transport in ancient Greece).

Despite the uncertainty and dangers inherent in overland travel (Horden and Purcell 2000, 377), Pikoulas proposes that carriage-roads, meaning, '"paved" roads with cut grooves to support wheeled carts, had crisscrossed the entire Greek landscape from the end of the 7th c. BC ...' (2007, 86; carts and pack animals were used extensively throughout ancient Greece to transport loads see Raepsaet 2002, 51–54; cf. Casson 1994, 68). Often we can identify archaeological traces of a route by the presence of wheel-ruts, retaining walls, and switchbacks, and reconstruct a hypothetical course of the route using evidence of the location of herms, graves, wells, and urbanised centres that acted as nodal points for people travelling across the countryside (for example the surveys of Hammond 1954; Young 1956; Ober 1985; Munn 1993; Lohmann 1993). This conclusion is supported by studies throughout mainland Greece which have identified significant routes through their respective landscapes at Euboea, Arcadia, Laconia, the Megarid, and the Argolid (Hammond 1954; Wells 1990; Armstrongi *et al.* 1992; Pikoulas 1999; Wells 2002; Keller and Hom 2010; Pikoulas 2012; Fachard 2012). Taking Attica as an example, thanks to the work of twentieth century topographers, several ancient roads were mapped in the north of the territory which were originally considered 'military roads', such as sections of the 'Road of the Towers', Oinoe road, and the road to Panakton (Ober 1985; cf. Fachard and Pirisino 2015, 139–154). Recently, however, the function of these 'military roads' have been revisited illustrating that they frequently facilitated the movement of people for political and economic reasons, in addition to military campaigns (Fachard and Pirisino, 2015, 144). These conclusions are in no small part helped by the quality of the archaeological evidence for ancient Attic roads which has increased over the last two decades due to rescue excavations associated with modern road building (Costaki 2006; Korres 2009). The routes reconstructed here (Fig. 5.2) illustrate a major road network throughout the peninsula. This network not only provided access to Athens, but also demes along their course, and served as junctions to other parts of the landscape immediately on these

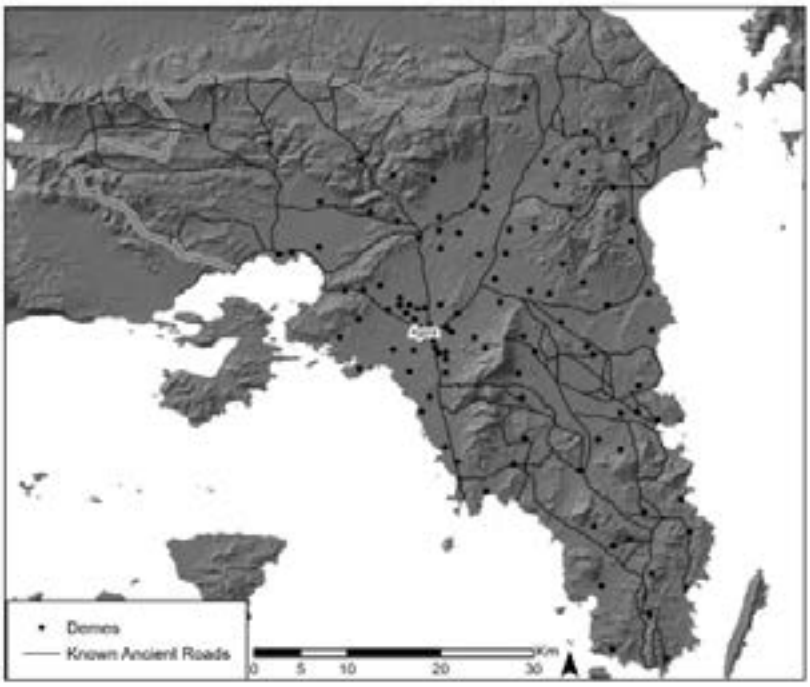


Fig. 5.2: Ancient roads in Attica (after Kakavogianni 2009; Fachard and Pirisino 2015).

principle routes. Therefore, in the case of Attica, it is clear from the archaeological evidence, that there were extensive systems of roads, which connected urban centres to their hinterlands and beyond.

Furthermore, roads played an increasingly important part in encouraging connectivity throughout Attica. Recent research has shown that beginning in the time of the Peisistratids, the development of an Attic road system had an ideological purpose designed to help cultivate a relationship between the individual and the ruling authority, and in turn the city and its countryside. The state-endorsed road building programme helped foster social connections by providing access to civic and cult centres, and economic mobility by encouraging access to markets throughout the countryside, all of which benefited the individual and the ruling authority (Crawley Quinn 2007, 95). During the Classical period, roads with social markers in the form of cult sites, graves, rural markets, and *horoi* created a sense of unity and cohesion in the Athenian population by encouraging the population to come together for a shared purpose. Such markers such as the *demosion sema* outside the walls of Athens along the Academy Road helped the democracy articulate its social and communal values (Arrington 2010, 533; see further Vlassopoulos 2007; Shear 2011; Osborne 2011; Sobak 2015). The link between the city and its countryside is also confirmed by Herodotus (*Histories* 2.7.1) who notes the Altar of the Twelve Gods, located in the *agora* at Athens, as a point from which all distances throughout Attica were measured (Travlos 1980,

458; Lohmann 2002, 77). This assumption is corroborated by the existence of a milestone marker noting the distance between the altar and the harbour at Piraeus (IG II^2 2640; Lohmann 2002, 78; *Horoi* too marked road boundaries for example road marker H32 in Lalonde 1991, 29). Distance markers then, also played a key role in reinforcing a connection between the countryside and the city, and were a reminder of the importance of the city for the rural traveller. Therefore, beginning in the Archaic period, the ruling authority understood that, in order to ensure success, it was important to encourage a connection, manifested in complex road networks, between the city and countryside. In short, the sophistication and complexity of the Athenian road network facilitated greater social cohesion, and the quick and relatively easy access between urban centres, the hinterland, and beyond helped individuals to engage in urban and rural markets.

From the evidence in the previous section it is clear that a proportion of the goods could be exchanged within the community, and in doing, so these goods never reached defined markets (Davies 2005, 128; 2007). However, there were times when both the subsistence and market-driven farmer would have travelled to a market to sell their produce. An ancient Greek farmer could access a number of spaces for trade: *agora* (urban and rural), ports, fairs/markets associated with sanctuaries, and opportunistic moments of passing trade (Harris 2002, 74). In this case these spaces can be defined as fixed (*agora* and ports) and unfixed/temporary (fairs, markets, passing trade).

Firstly, concerning fixed markets, the ports and *agorai* (urban and rural) provide the most obvious choice for the trading of agricultural produce. Aside from the central *agora* within the main urban centre of a city-state, there is evidence too of local *agora* in demes, rural settlements, and along borders of territories. These local markets catered to inhabitants of the surrounding rural and urban settlements and provided an opportunity for farmers to trade (Bresson 2015, 237). In terms of the Akte peninsula, the three urban centres of Halieis, Hermione, and to a certain extent Mases, were nodal points in the landscape for the trading of agricultural produce. For the Akte, as we have seen above, the importance of olive oil for trade suggest that foodstuffs were brought in from the countryside and presumably sold in a designated market space. In the case of the Methana peninsula it is possible to assign similar functions to the city of Methana and its adjoining port at Vathy, although again no *agora* space has come to light. In the case of Oga, the presence of a large pressing installation and tower on the acropolis may be associated with the processing of agricultural produce brought to the centre for trade. Moreover, in Laconia, Catling asserts, that the city of Sparta was the focus of market activity for the farms within the survey area (2002, 196).

Fixed centres of trade may not only be associated with urban centres. Recently archaeology has revealed centres for the large-scale processing, storage, and sale of agricultural produce, which have no evidence of domestic activity. For example, the site of Vrasna located in the region of Pieria, Macedonia is ideally positioned on an important trade route across the landscape and surrounded by a series of large

Hellenistic and Roman farms. The site itself, dating to the fourth century BC, consists of a fortified space which produced evidence of storage equipment and *trapetum*. The archaeologists conclude that the site functioned as an area for the trading of agricultural produce (Adam-Veleni *et al.* 2003, 95–99). It is also possible to assign a similar role to the fortress of Eluetherai on the border of Attica and Boeotia, which may have acted as a trading post for those traveling between the territories (Fachard 2013). On a smaller scale, a site located to the south of the Paximadhi peninsula in Euboea, was found in close proximity to a number of farmsteads. The site had evidence for the large-scale storage of agricultural produce in the form of cisterns and *pithoi.* The excavators believe that this site may have served as a centre of trade within the peninsula, away from the urban centres of Kourmali and Karystos (see Keller and Schneider 2009). Therefore, it was possible to have fixed markets for trade at urban and local *agorai*, at ports, and within the landscape itself.

Periodic markets served an important role in the ancient economy. These markets allowed a farmer to sell produce, which has insufficient demand for him to become a trader full-time and allowed the farmer to purchase additional material from other traders (deLigt and deNeeve 1988, 401; Andreau 2002, 121). There are two types of periodic markets, those with a long cycle (1–4 years), and those with a short cycle (monthly or annually). Periodic markets (*panegyris*) are often associated with religious festivals, which gave an opportunity of those in the surrounding countryside to trade (deLigt and deNeeve 1988, 398; Chandezon 2000, 71–72). At these festivals all members of society came together, and the corresponding fairs set-up as part of the festival, not only provided provisions for pilgrims, but also the sale of other commodities (Bresson 2015, 237). For example, Pausanias describes the fair held twice a year at the town of Titherea, Phocis, at the temple of Isis:

> So on this day they [worshippers] perform these acts about the sanctuary, and on the next day the small traders make themselves booths of reeds or other improvised material. On the last of the three days they hold a fair, selling slaves, cattle of all kinds, clothes, silver and gold. (*Description of Greece* 10.32.15)

The benefits to traders of attending a festival such as this allowed a 'periodic amassing of potential customers, offering an opportunity for selling foodstuffs, sacrificial animals, and votives' (deLigt and deNeeve 1988, 399). Importantly, periodic markets, particularly those related to religious activities, provided an excellent opportunity for farmers to sell livestock for sacrifice (see Jameson 1988; McInerney 2010). Therefore, for the subsistence farmer who wished to sell off surplus, or needed supplies, these periodic markets provided an excellent opportunity.

Thus, local sanctuaries played a role in the agricultural economy of a territory. In the Akte, six sanctuaries/temples were identified in the survey area (Appendix Table 9). The most important are the sanctuary of Apollo to the north of Halieis, which at its peak had games associated with the festival, and the sanctuary of Demeter outside Hermione (Jameson *et al.* 1994, 83–84). These sites are illustrated in the maps

for each survey area and are all accessible from the major road network through the peninsula, which in turn means that markets were accessible from agricultural processing centres. Therefore, in the Akte peninsula these sites, as well as the urban centres, provided an opportunity for intermittent trade amongst farmers and consumers. Similarly in Methana, three sanctuaries, and one shrine, were identified in the survey area (Appendix Table 14), one outside Oga, and two extramural sanctuaries at the northwest of the peninsula. No sanctuaries were identified close to Methana, and the surveyors suggest that the sanctuaries may have been used to link the three settlements as part of one community through shared festivals (Gil *et al.* 1997, 68–69). Fairs and trade too would have been means to connect people and develop community bonds. In Laconia, three large state cult sanctuaries (Menelaion, Apollo Pythaeus, and Zeus Messapeus) perhaps provided opportunities for the trade and exchange of produce during religious festivities. The presence of sanctuaries provide evidence that farmers could trade episodically at periodic markets associated with religious occasions as well as at fixed urban and rural markets. So far, I have listed designated areas for the trade of produce at fixed or temporary markets. It would be misleading, however, to believe that these areas and times provided the only opportunity to sell produce. For example, in Aristophanes' *Knights* (1245–1247) salted-goods and prostitution were traded at the gates of the city beyond the borders of the *agora*. Therefore, it is possible that trade happened beyond market centres, and outside of designated market times, but, the importance of foodstuffs (particularly grain) for the economy of the city, and its regulation, suggests that these products were, for the most part, sold at designated markets (Bresson 2015, 236).

Finally, it is important to include a brief note about the possibility of opportunistic trade. As already mentioned that the movement of flocks through Arcadia presented an opportunity for trade, along the shepherd's route, and also Foxhall and Forbes comment, that the modern farmers of Methana in the recent past who sold on agricultural produce at beaches to passing ships (1996, 78). It might be possible that similar activity happened in ancient Greece, too. However, this type of trade probably did not form the central part of a farmers' economic policy. It is nevertheless important to bear in mind that passing trade, either by land or by sea, provided the farmer with another opportunity to sell.

Traders and consumers

In this final section, we complete the economic cycle by discussing the various people who might have been selling and purchasing foodstuffs from either subsistence farmers who engaged in market activity intermittently, or the market-driven farmer who may have habitually moved goods to market. It has become clear in this chapter that the farmer himself could be both producer and consumer depending on his needs and circumstance (Reger 2007, 468). Therefore, it is wholly possible that farmers themselves formed part of the corpus of traders who sold or

exchanged produce to other family groups or on to other retailers. The frequency of these trades probably depended on the overall economic objective of the farmer. In the case of the subsistence farmer, he most likely took advantage of fairs by setting up a makeshift booth to sell additional surplus. Concerning the elite farmer, it is probable that he did not directly sell his produce. Instead, it may have fallen to his bailiff to arrange the sale of agricultural goods (Bresson 2015, 235; Foxhall and Forbes 1996, 80). For example, Plutarch recounts the Athenian general Pericles doing just this:

> ... he set into orderly dispensation as he thought was easiest and most exact. This was to sell his annual products all together in the lump, and then to buy in the market each article as it was needed, and so provide the ways and means of daily life ... His agent in securing all this great exactitude was a single servant, Evangelus who was either gifted by nature or trained by Pericles so as to surpass everybody else in domestic economy. (*Pericles* 16.3–5)

It is likely that bailiffs managed the selling of produce, especially when the farm was located at a distance away from the owner (i.e. the farm at Thasos farmed by a bailiff and owned by an Athenian). It is equally likely that goods, in this case agricultural produce, could pass through intermediaries before reaching its final consumer (Bresson 2015, 378). These middlemen/petty traders (κάπηλος), although vilified in the textual sources (see Plato *Republic* 371c–d; Aristotle *Politics* 1319a), appear to have played a key role in the trade of goods (Bresson 2016). For example, albeit the evidence is from Egyptian papyri dating to 258 BC, these traders travelled into the *chora* to buy goods from local producers, which then would be sold either directly to consumers or to other wholesalers (Bresson 2016). Therefore, it is feasible that middlemen acted as point of sale for the farmer, within the countryside, whose goods could then be traded on to other markets.

Middlemen could sell the goods themselves, or trade their commodities to full-time merchants (ἔμπορος). Although the extent to which merchants engaged directly with producers is unclear, it seems that these men were involved in the large scale regional and inter-regional trade of produce (Bresson 2015, 378–379). For example, Cleomenes of Naukratis sent letters to other merchants about prevailing prices of grain in different city-states (Demosthenes 56.8–10; Möller 2007, 369). Although they appear to be primarily involved in the long distance trade of large cargo, it is worthwhile here to include them in the discussion of the types of traders involved in agricultural produce. These merchants could purchase produce from either middlemen or farmers and act as wholesalers selling on their goods to retailers within the urban market (Morley 2007, 51; Möller 2007, 368–369).

The relationship between the producer and intermediaries like middlemen and merchants, and the extent to which demand for goods determined the extent of production is a topic, which is currently going under revaluation (Bresson 2016; Chankowski and Karvonis 2012). Regarding the Akte, Methana, and Laconia areas, it is difficult to identify similar complexities in the nature of trade and traders in the urban centres, primarily because of the lack of direct textual or archaeological

evidence. However, it is clear that producers, in our case, farmers were not working within a vacuum, and that there would be opportunities to trade driven through either need or monetary gain.

Once produce was traded either directly or through an intermediary there were broadly three consumers of commodities, particularly foodstuffs, are private households, the state, and the temples (von Reden 2007, 386). The level of consumption for private individuals was in part directly connected to the wealth of the household. This division between the consumption habits of the wealthy and peasant has been a topic of study for a number of years (e.g. Osborne 1991; Gallant 1991). While there is extensive evidence for the consumption practices of the elite, particularly from Athens, studies about peasantry are often reliant on ethnographic parallels, as per Hamish Forbes' analysis of modern Methana farmers (2007; Halstead 2014). There is textual and iconographic evidence which informs modern analysis of wealthy consumption practices and the importing of luxury foodstuffs (Möller 2007, 363), but it is difficult to understand the extent of consumption in the poorer strata of society. It is necessary to depend on the assumption that overall, non-wealthy farmers were to a certain extent self-sufficient regarding their food consumption and reliant on exchange within neighbour or familial groups during hard times.

The state, too, was a consumer and purchased agricultural produce from farmers. As von Reden explains 'since the classical *poleis* increasingly taxed in money not in kind, and did not maintain state industries, public herds, or directly cultivated public land, they generally bought what they needed' (2007, 387). The areas of state consumption were warfare, building works, sacrifices, and festivals. Importantly, this demand in consumption would fluctuate depending on the building projects and warfare being conducted by the state. The organisation of state festivals too put additional pressure on the state as consumer, for example during the preparation for the Panathenaic festival, an Athenian official was put in charge of purchasing enough olive oil and cattle to fulfil the need for prizes and sacrifice (von Reden 2007, 405–406). Sparta, too, is another particular example of the interconnectedness of the city and countryside. The produce supplied from the countryside went into (literally) fuelling the militaristic society of the state.

Finally, temples and religious organisations were an important consumer of foodstuffs. Temples were financed by the yields from land owned by the temple, voluntary or compulsory dedications, and by public reserves (von Reden 2007, 387). An important aspect of the temple as consumer is the acquisition of animals for sacrifice, which has been explored in detail by Jameson (1988) and more recently by McInerney (2010). From the evidence presented in Chapter 3 is it apparent that it was possible for a farmer either to engage in large-scale transhumance or to have a number of animals and also cultivate crops. The choices of farming system were dependant on the socio-economic objective of the farmer. In this instance, the by-products of animals such as milk, cheese, hair, and leather were probably consumed by most rural households rather than the animals themselves (von Reden 2007, 394;

Horden and Purcell 2000, 197–204). It is unlikely that animals were kept for slaughter only, because it would have been unprofitable, particularly for smaller farmers (von Reden 2007, 394). Therefore, the majority of meat produced and consumed would have been traded for sacrifice (McInerney 2010, 174). The sale of animals for sacrifice was an important part of trade during festivals. For example, in Xenophon's *Hellenica* he records that a levy was made of 1000 oxen and over 10,000 sheep, goats, and pigs for a festival of Apollo (6.4.29; von Reden 2007, 395). Similarly, data provided from an inscription detailing the lesser Panathenaia (*IG* II2 334 B 7–27) suggests that the resulting portions of meat from the sacrifice could have supplied 'almost half a kilo' per male citizen (McInerney 2010, 176). Xenophon's example and the case of the Panathenaia illustrates that temples were large consumers of meat sourced from a variety of places in addition to local individual farmers (Von Reden 2007, 395; McInerney 2010, 177–184). In the case of Attica, for example, cattle was sourced from in the fourth century tribute from their allies, imported from Boeotia, as well as sourced from local herds (McInerney 2010, 178–184).

The consumption of meat is often associated with religious occasions, an assumption which is borne out in the skeletal analysis from burials in ancient Greece which has shown that the majority of a person's nutrition came from cereal (von Reden 2007, 390–391). As a result of this, it was important for a *polis* to be able to produce enough foodstuffs to support its population. The extent to which the resources of a *polis* could support its population depended on the fertility and extent of cultivable land (see Chapter 2) (von Reden 2007, 404). In theory, the objective of each *polis* was to remain self-sufficient in foodstuffs; a need for importing grain from external sources was a sign of failure on the organisation of the *polis* (von Reden 2007, 403; Osborne 1987, 103). Consequently, it was only under drastic circumstances that a *polis* would rely on imports of grain, Athens, again, seems to be an almost unique case in its need to import large amounts of grain in the fourth century BC (as advocated by Moreno [2007]; countered by Tsetkhladze [2008]). Hermione received grain from Kyrene (*GHI* 96, 1.40) in 334 BC, which the surveyors believe was a result of food shortages (Jameson *et al.* 1994, 560–562). However, the fact that Hermione imported foodstuffs from Kyrene, and borrowed capital from Delos may not indicate an economic failure of the city. Rather, as Bresson explains, that during this period the population of the territory was too great for the territory to sustain, and the income from exports of dye and olive oil allowed Hermione to pay for its imports (2015, 363). Therefore, importing grain may not be a sign of a weak economy, but rather a strong one. Finally, it is difficult to apply directly these generalities to the Akte, Methana, and Laconia survey areas. The presence of urban centres in each of the regions suggests that there was demand for foodstuffs by people not engaged in agriculture (cobblers, bakers, masons etc.) or from the state to pay workers and feed state-owned slaves. Furthermore, the presence of sanctuaries in the three regions identified in the previous section also suggests that there was a demand for livestock for festivals, which local farmers might have supplied.

Conclusion

As with the economy itself, it becomes clear, that an individual farmer's engagement in trade and consumption of agricultural produce was scalable and dependant on their wants and needs. Furthermore, it is certain that very few, if any, farmers were truly self-sufficient, and they either choose to or were compelled through necessity to engage either in reciprocal or monetary trade. For subsistence farmers, like those on Methana, this engagement was perhaps not as formalised as market-driven farmers, but it is clear that they did attend and trade at fixed and temporary markets. Concerning market-driven farmers, some perhaps engaged in market economy via middlemen or other intermediaries. Therefore, irrespective of the farmer's economic objectives, they were to a certain extent engaged in the local markets either intermittently or habitually. Thus we can conceive of an agricultural landscape with movement of produce into urban settlements, but also to various parts of the landscape, either for storage or sale, depending on the wants and needs of the farmer. Fundamentally for this to be successful the territory needed an infrastructure to support the movement of goods and people. The development of sophisticated road networks throughout territories, such as Attica, Laconia, and Arcadia, serve to illustrate that the countryside and those working within it were not isolated from urban centres and other potential opportunities for trade, and roads played an important role in facilitating economic movement and maintaining social connections, which undoubtedly created and perpetuated trading and reciprocal relationships between individuals and groups.

Finally, the archaeological evidence for farmsteads not only represents networks of sites which supported agricultural industry in specific territories, but also the nature of the site itself helps determine the scale of the agricultural operation. In addition, through the application of computational analysis we can map the connectivity of the landscape and the ease in which one could move through it to places of storage, processing, and sale. With this in mind the focus here was to place these conclusions within their historical context by tracing the flow of commodities from producers, traders, and consumers within a microregional context, and in doing so identify the opportunities available for farmers to trade and the potential consumers of agricultural produce. The conclusions of which have determined that due to the agrarian nature of ancient Greek society and the variety of socio-economic demands on the various classes of farmer means that the production, sourcing, trade, and consumption of agricultural produce was a universal goal within society and that farmsteads and the routes which connected them formed a network which generated and maintained agricultural industry.

Chapter 6

The ancient Greek farmstead

The purpose of this work has been to develop a criteria for the identification of farmstead types and place them within their socio-economic context by understanding their agricultural role. Farmsteads are fundamentally connected to agricultural production and consumption so it was necessary to begin with an investigation of the nature of ancient Greek agriculture, and the most relevant topics that concern farmsteads, namely types of farming system, settlement patterns, land ownership, and the individuals engaged in farming activity. The agrarian nature of ancient Greece meant that everyone, to a certain extent, was engaged in farming. In terms of a hypothetical landscape we can expect that the majority of people would be involved in actively pursuing agriculture as part of their daily life. This meant that the majority of the population, of any one territory, was intrinsically connected to the landscape as a source of nourishment for themselves and their dependants. This may, of course, manifest itself in a variety of ways. If the territory is mostly farmed via slave labour force we might expect large contiguous plots, small nucleated settlements, and towers dotting the landscape. Whereas in a landscape farmed primarily by citizen/farmers, we could expect individual plots suitable to support single families. In reality, however, the image presented in the previous chapters is much more complex than drawing simple divisions between slave and free, wealthy and middling. Each landscape, and its socio-economic circumstances, is unique. As such there is no one universal type of farming system adaptable and suitable for each region and society in ancient Greece. To illustrate this point further, our best sources of evidence for the variation in farming practices, and its regulation, are inscriptions, particularly leases. The choice of farming practice is too reliant on the economic objectives of the landlord/farmer, and on the nature of the landscape to be able to employ a standardised model of one type of farming throughout the Greek world. Therefore, as the textual evidence illustrates, some farmers engaged in intensive farming, while others used extensive farming practises. Importantly, neither type of farming system is mutually exclusive in an individual territory.

Furthermore, it is conceivable that our attempt to create a division between nucleated and dispersed settlements is misleading and not representative of what the ancient Greek would have understood. Instead, it was feasible that any one territory

consisted of first, second, and third order sites, and that both rural settlements and individual farms could support a host of domestic activity comparable to larger cities and towns. Therefore, the division between nucleated/dispersed and urban/rural is an artificial one. However, tracing the development of settlement patterns is still helpful since change in settlement patterns is one method to help discern the "success" of farming in an individual territory. For example, when we compare the data from the Akte and Methana peninsulas, which for periods during the fourth century BC had their own independent city-states, minted their own coins, and interacted politically with neighbouring territories, we might expect to have similar trends in the nature of farmsteads, and their ceramic assemblages. But, it is clear from the case studies presented here that second order sites and individual farmsteads could co-exist with the urban centres of Halieis, Hermione, and Mases in the Akte landscape. In contrast, Methana, after a brief period in the fourth century BC, for economic and topographic reasons, the rural inhabitants withdrew from the countryside, and lived in the larger settlements of Methana, Oga, and Magoula. Therefore, both areas, although similar in some respects, have different impetus behind farming practices and settlement distribution. Thus, settlement patterns in individual territories were not static, and were open to change based on several human and environmental factors.

The nature of settlement patterns points to wider socio-economic norms in society, as with the type of farmer working the land. In Messenia perhaps farmers lived together within smaller nucleated settlements, whereas in other territories a more dispersed rural settlement type was the norm. I, however, am cautious in drawing a distinct line between a free and slave labour force, and in reality perhaps in the majority of cases, particularly in societies where the organisation of households was not dictated from the ruling authority, that a mix of slave, dependant, and independent farmer took precedent. It is perhaps not possible to say definitively that one type of farmer dominated each territory. We should move away from trying to pigeon-hole completely individual territories into specific settlement patterns, farming systems, and farmer, and instead conceive that ancient Greek agriculture was adaptable depending on individual capabilities and wider changes in society.

Regarding the economic impetus for each individual farmer it is apparent that the complexity of farming systems, labour, and settlement patterns available to them reflects their socio-economic status. In other words, the choices the farmer made about how and when to farm depended on a host of socially and economically driven factors. In theory, the 'typical' *metrios* farmer may have used minimal slave labour, along with the labour of family, to work small (sometimes fragmented) plots of land to cover the needs of himself and his family. Sometimes, when want arises, this farmer may trade with neighbours, engage in markets at local fairs and sanctuaries, and possibly sell to passing intermediaries to gain additional income. At the other end of the scale, the 'typical' upper-class farmer was unlikely working the land himself, unlike his *metrios* counterpart. As we have already seen, these farmers (using the

term loosely) perhaps owned/leased several farms within their originating territory and further afield. These individuals would be engaged perhaps in other industries with the goal of achieving the maximum income to cover the running costs of such estates, along with being able to pay state taxes levied against them. The upper-class farmer then farmed by extension using the labour of slaves and bailiffs to achieve maximum yield from their estates. Within these two hypothetical extremes, rests the reality for the ancient Greek farmer. At its most rudimentary farming provided the daily nourishment the family unit needed to survive. Beyond that, the farmer could employ several different strategies, possibly concurrently, to gain additional income, and maintain enough supplies to see the family unit through lean times. Therefore, it is impossible to draw clearly defined distinctions between the completely self-sufficient farmer, on the one hand, and the market-driven farmer on the other. Concerning ancient Greek agriculture, and in particular the nature of the agricultural landscape, including farm systems, settlement distribution, and farmstead types, it is difficult to speak in generalities regarding the factors which determined these choices, because they evolved from, and are influenced by, fundamental topographic restrictions, and the socio-economic factors which underpin settlement in each of the one thousand or so city-states of ancient Greece.

Finally, what picture does the textual evidence give regarding the nature of farming in ancient Greece? They illustrate that there was a great amount of variety of farming systems, settlement patterns, and farmers. Furthermore, these variations and the choices the farmer made about how and when to farm reflected their social status and economic needs. Consequently, farming was dependent on a whole host of external modifiers, which helped shape and determine the nature of farming in individual territories, and for individual farmers. Accordingly, the image we have of ancient farming reflects its fluidic and adaptable nature. With this in mind we should expect the archaeological record of those sites which facilitated the occupation, storage, and processing of agricultural goods to be as varied as the farming they supported.

This brings the discussion to one of the main issues concerning the identification and interpretation of farmsteads. The topic of farmsteads has been plagued with both methodological questions concerning their identification and more fundamental questions about how we understand the role of these sites within the wider socio-economic culture of individual city-states. From the above discussion it is clear now that we should expect the sites which supported a variety of farming practices to reflect the variations in socio-economic imperatives of the farmer, and that farmsteads existed in multiple landscapes. Furthermore, concerning their absence in textual sources, for the ancient Greek, it was unnecessary to provide detailed descriptions of these sites, due to their variations, which reflected the needs of the farmer, rather than their nonexistence. When trying to compare the textual and archaeological data we can equate some similarities, but neither source offers a complete description of the repertoire of site types described here. As with the nature of ancient Greek agriculture, we can conceive of a variety of rural sites accommodating various

activities (storage, occupation, processing) across a spectrum of society. Therefore, the concept of a farmstead, defined solely as a place for habitation and agriculture, may not have been recognisable to all Greeks. But that does not mean that sites did not exist in the landscape facilitating the activities described above.

Following from this conclusion, we must ask whether the term 'farmstead' should be retired because of its apparent inability to describe accurately the variety of farmsteads. Clearly, it is not inclusive enough a label to represent the variety of sites supporting different types of agricultural activity in the landscape and there is no single type of farmstead. Hence a more refined categorization is suited to rural sites with an agricultural function. Despite the fact that the term farmstead alone cannot distinguish differences between agricultural sites, the term still has an important place in future scholarship, as an indicator of human activity within the countryside. It serves as a shorthand description of sites, which display evidence of domestic activity and/or agricultural processing. But it is insufficient in providing a narrative regarding their agricultural role, it is important to be fully aware of the various types of sites that make up the corpus of farmsteads, and their different functions and roles as places for human occupation, agricultural storage (goods, slaves, tools, and livestock), processing of produce, or a combination of these elements.

As such there was a need for a role-based typology of rural agricultural sites in order to fully realise the complexity involved in agricultural industry, and also to help move away from the entrenched positions regarding the concept of the 'ancient Greek farmstead'. We need to move beyond theoretical and methodological debates concerning pedestrian landscape survey, and focus instead on how the data compiled in site lists, tables, and graphs, can help us reconstruct the work life of the farmer in the agricultural landscape. Creating a typology for farms that interrogates their agricultural role goes beyond issues of nomenclature, and instead offers insight into the social and economic life of the individual, and the landscape more generally. In order to explore this variation further, the criteria used here emphasised that it was possible to identify types of farmsteads by examining a site's physical context, the nature of any structures present, and the ceramic material. The results determined that there are three distinct site types for storage, processing, and accommodation for those working the land. Furthermore, the variations within each farmstead type helped further define the role of the site within the wider agricultural network.

In the Akte and Methana peninsulas by investigating the variety of farmsteads, we identified socio-economic trends relating to farming by different strata of society, as described in the textual sources. The differences in the nature and wealth of ceramic assemblages, along with the presence of different types of storage ware, indicate that farmsteads had very specific and different roles for those using them for the duration of their occupancy. Thus it was possible to identify not only the different farmstead types used in agriculture for processing, storage, and/or human occupation, but also variations within the sites themselves, which reflect the farming systems employed within territories, and also the status of the farmer using the site. The findings drawn

here show that further classification, investigation of the archaeological data, and their relationship to other sites in their vicinity, yields results regarding farming practices and the farmers working the land. By examining the relationship between different farmstead types, it becomes clear, that they are not isolated entities working within a vacuum; instead, these sites are related to each other to support domestic activity, along with the storage and processing of agricultural equipment and produce.

By using these criteria we can determine how these sites formed a connected network for the storage, occupation, and processing of agricultural goods, all fundamental elements of the agricultural industry that formed the economic core of the Greek world. This connectivity investigated using computational modelling in the landscapes of the Akte and Methana peninsulas emphasised that despite past research, the ancient landscape, irrespective of topography, was a connected space visually and physically. This connectivity manifests itself via a network of routes, which allowed people to move quickly and efficiently between sites for residence, storage, and processing. The key conclusion drawn from these analyses was that sites were located close to routes, irrespective of the threats posed by native or foreign attacking forces. In reality a farmer would, at various intervals, engage with fixed or temporary markets for the selling of surplus or purchase of additional supplies, irrespective of their economic impetus. This engagement, then, required a physical infrastructure to facilitate the movement of produce throughout the territory. This connectivity of various site types and the framework of roads meant that it was possible to model how agricultural commodities moved between producers, consumers, and markets. The visibility analyses of both territories, too, highlighted that visibility of roads and other sites was a key consideration for site placement. Perhaps most revealing is the shared visibility of pressing installations from several of the simple rural sites. These models clarify the level of visual awareness agricultural workers had of the landscape, and the importance of sites for the processing of agricultural goods. In simple terms, visibility allowed for those working the land to maintain an awareness of which individuals were using the installation, and when, and it also provided peace of mind for those working the land that valuable produce and tools were safe and being monitored from several sites. The resulting models illustrated that the rural landscape was a network of interconnections, in terms of mobility and visibility through the landscape, and to and from different site types with regard to communication and movement of agricultural goods. The variety of the archaeological data shows that the range of site types reflects individuals or groups of farmers sharing agricultural installations during peak times in the agricultural year, while other installations within structures that also supported domestic occupation, may be the domain of wealthier farmers. This conclusion helps illustrate the variation in the economic objectives of individuals working the land. In addition, it helps put to bed the dichotomy between the urban and rural Greek world, and instead we should conceive of a territory composed of settlements with varying degrees of social complexity within one landscape.

The conclusions reached from the empirical findings of the preceding chapters show that any researcher, who attempts to engage with the topic of ancient Greek farming, must maintain an awareness that agricultural industry was neither unchanged, nor monolithic, across the Greek landscape. Rather, it was dependent on the ecological and socio-economic nature of individual territories and, even to a certain extent, single households. Based on this, of course it stands to reason that farmsteads within and between regions, manifested themselves in a variety of shapes and sizes, reflecting regional and individual agricultural trends. In a number of instances it is necessary to understand the role of sites, farming systems, and the agricultural industry of specific landscapes on a case-by-case basis. In doing so we can gain a greater depth of understanding regarding farming in each landscape, and in applying the typology presented here, understand the role of farmsteads as facilitators of agricultural industry. By doing this we move farmsteads from their supplementary role in research into ancient Greek farming, and bring them to the forefront of the discussion. The conclusions here emphasise that farmsteads played a significant role in agriculture, and we should not underestimate their role because of the contentious nature of scholarship around them, and the perceived difficulties surrounding their identification. Farmsteads, as we have seen, formed nodal points in the landscape for habitation of farmers, storage, and processing of agricultural goods, when examined within a framework, not only of other non-agrarian site types, but also in relation to the route network, which supported the movement of people through the landscape, can we begin to understand how the landscape acted not as a transitionary space between larger settlements, but a facilitator of work, ritual, and habitation in its own right. Through an investigation of the available textual and archaeological evidence, we can understand their intrinsic value, not only as testaments to rural agricultural life, but also as an indispensable research tool into the use of the landscape as a dynamic and connected space.

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Appendix 1

Catalogue of farmsteads

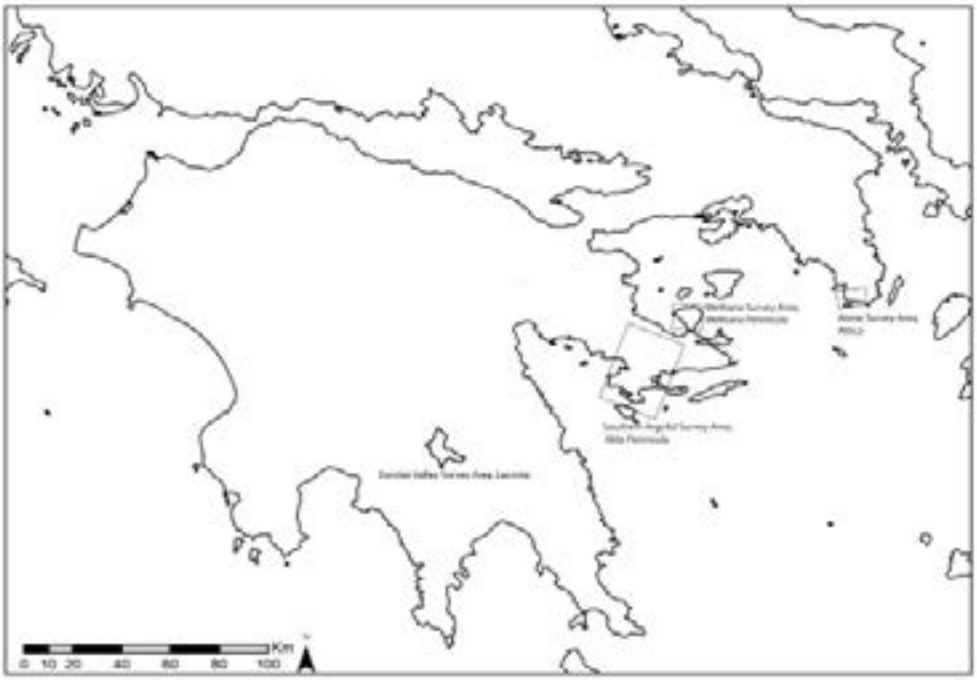


Fig. App. 1.1: Location of the Akte, Atene, Methana, and Eurotas valley survey areas.

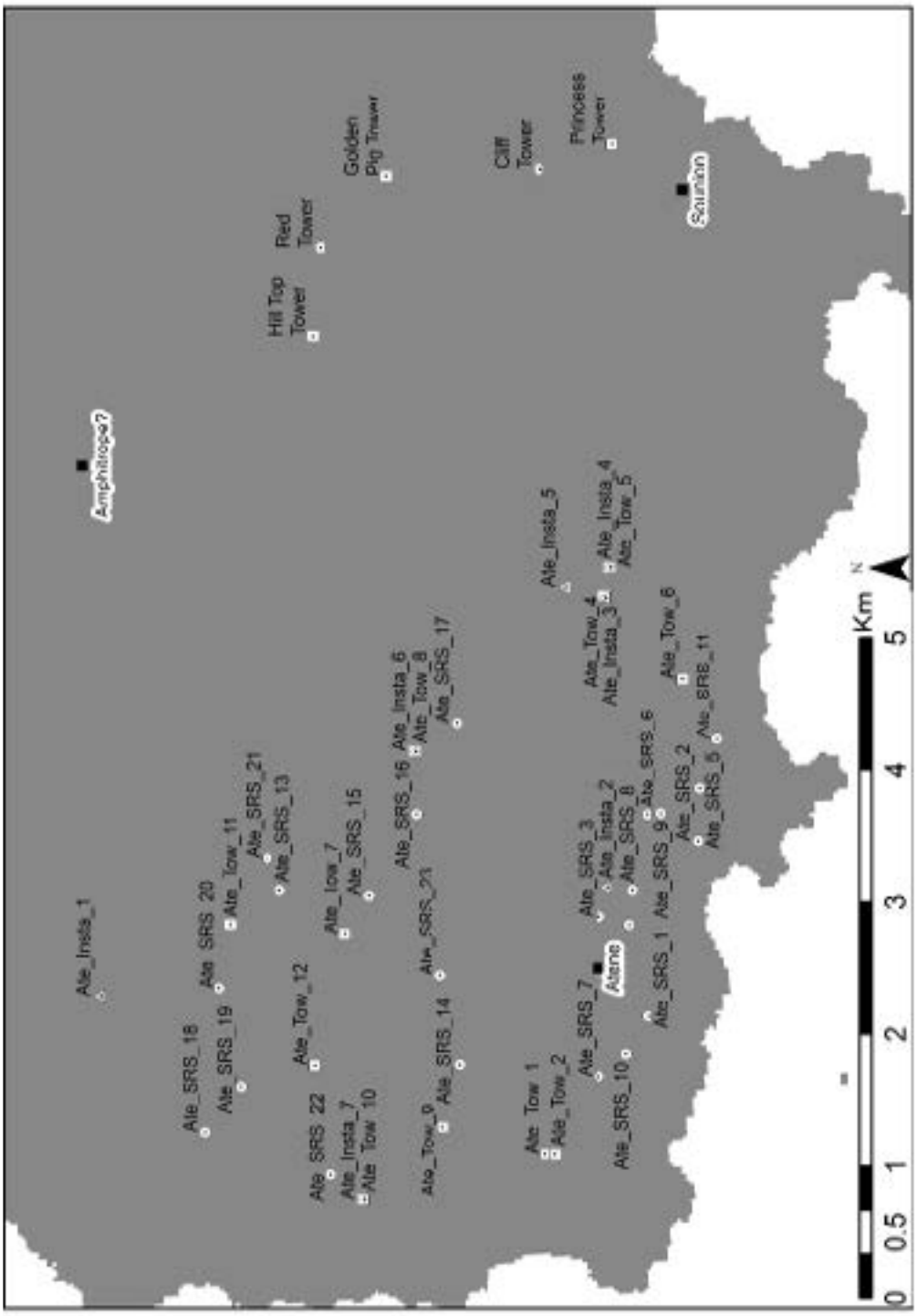


Fig. App. 1.2: Farmsteads in the Atene survey, and Sounion towers Attica.



Fig. App. 1.3: Farmsteads in the Eurotas valley survey, Laconia.

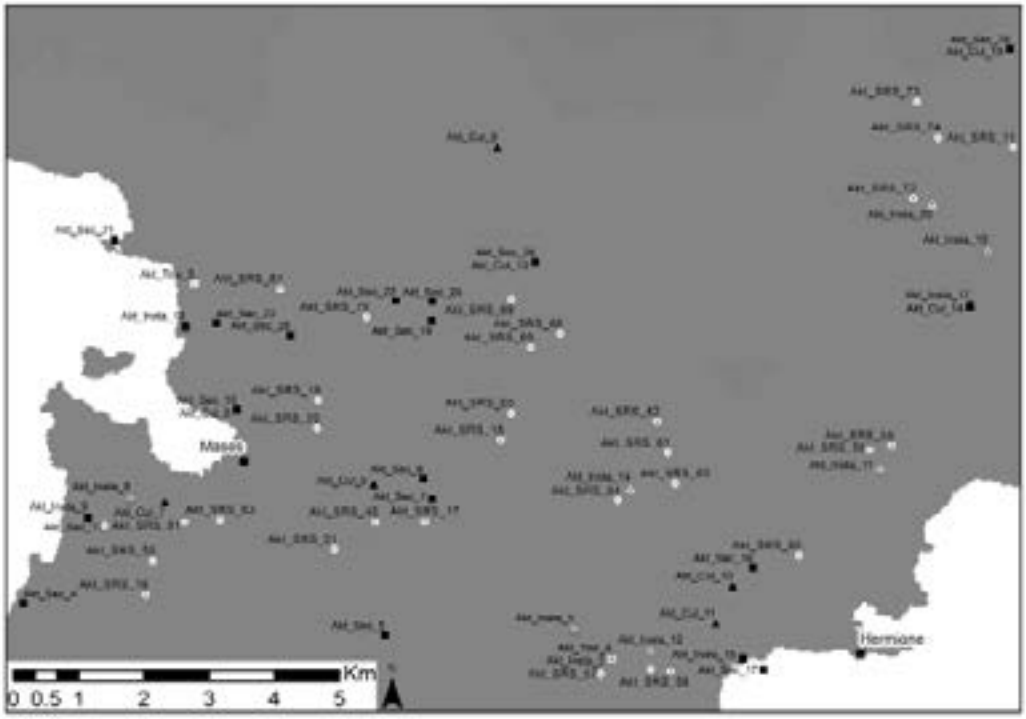


Fig. App. 1.4: Farmsteads in the northern area of the Akte peninsula survey.

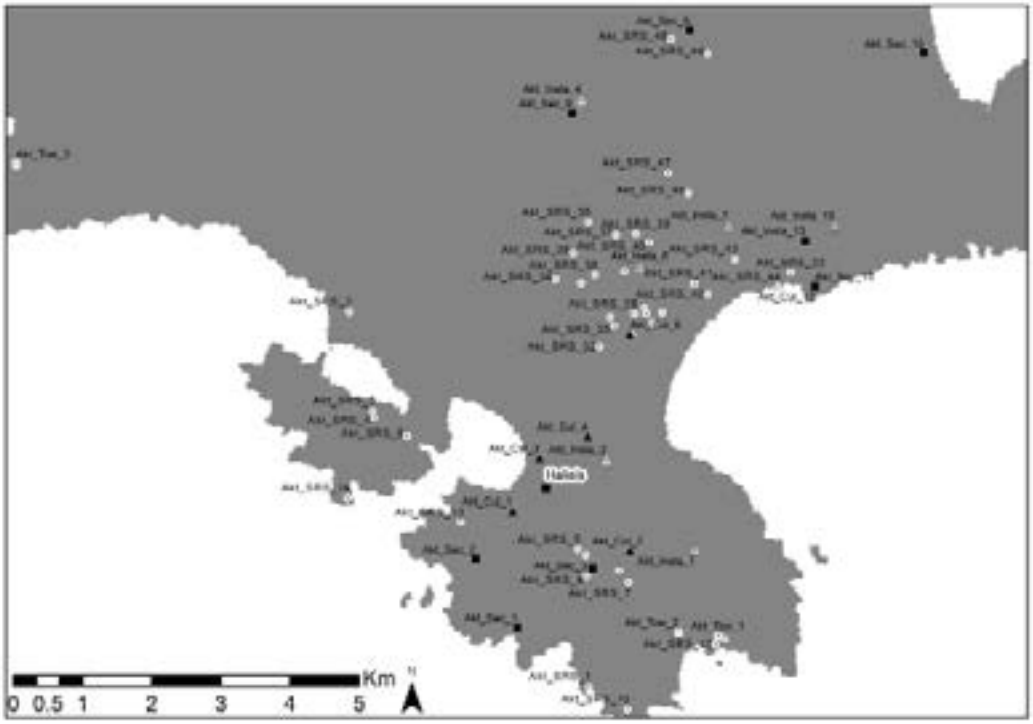


Fig. App. 1.5: Farmsteads in the southern area of the Akte peninsula survey.



Fig. App. 1.6: Farmsteads in the Methana peninsula survey.

Atene survey, southern Attica (Fig. App. 1.2): (data compiled from Lohmann 1993, 352–512)

App. Table 1: Atene Turmgehöfte

Farmstead name	*Site alias*	*Survey site name*	*Site type*	*Structure visible*	*Date*	*Sherd count*	*Ceramic types*	*Add. info.*	*Agri. tools*	*Agri. insta.*	*Type*
Atene Tower 1	Ate_Tow_1	CH3A	Tower	Y	C–H	15	F/D/S	TRs	N	N	
Atene Tower 2	Ate_Tow_2	CH3B	Tower	Y	C	10	F/D/S		N	N	
Atene Tower 3	Ate_Tow_3	GA1	Tower	Y	C, LR	14	F/D/S	BH, TRs	N	N	
Atene Tower 4	Ate_Tow_4	LE15	Tower	Y	C	17	F/D/S	BH	Y	Y	Threshing floor
Atene Tower 5	Ate_Tow_5	LE17	Tower	Y	C	7	F/D/S	BH, TRs	Y	Y	2 threshing floors
Atene Tower 6	Ate_Tow_6	LE5	Tower	Y	C? LR	2	D		N	N	
Atene Tower 7	Ate_Tow_7	PH1	Tower	Y	C, LR	3	F/S	BH	Y	N	Grinder
Atene Tower 8	Ate_Tow_8	PH2	Tower	Y	C, LR	13	F/D/S	BH, TRs	Y	Y	Threshing floor, grinder
Atene Tower 9	Ate_Tow_9	PH33	Tower	Y	C, LR	13	F/D/S	BH, TRs	N	N	
Atene Tower 10	Ate_Tow_10	TH1	Tower	Y	C	14	F/D/S	BH, TRs	N	Y	Threshing floor
Atene Tower 11	Ate_Tow_11	TH30	Tower	Y	C, LR	2	F/S	BH	N	N	
Atene Tower 12	Ate_Tow_12	TH37	Tower	Y	C	5	F/S	BH, TRs	N	N	

App. Table 2: Atene simple rural sites (gehöft)

Farmstead name	*Site alias*	*Survey site name*	*Site type*	*Structure visible*	*Date*	*Sherd count*	*Ceramic types*	*Add. info.*	*Agri. tools*	*Agri. insta.*	*Type*
Atene SRS 1	Ate_SRS_1	CH11	SRS	Y?	C?, LR	3	F/S		N	N	
Atene SRS 2	Ate_SRS_2	CH15	SRS	Y?	C–H	9	F		N	N	
Atene SRS 3	Ate_SRS_3	CH27	SRS	Y?	C, Med	3	S	BH	N	N	
Atene SRS 4	Ate_SRS_4	CH29	SRS	Y?	C–H?	1	S	TRs	N	N	
Atene SRS 5	Ate_SRS_5	CH33	SRS	Y	C–H	18	F/D/S	TRs	N	N	
Atene SRS 6	Ate_SRS_6	CH34	SRS	Y	C–H	0			N	N	
Atene SRS 7	Ate_SRS_7	CH45	SRS	Y	C, LR	4	F/S	BH	N	N	
Atene SRS 8	Ate_SRS_8	CH63	SRS	Y	C–H	14	F/D/S		Y	N	Grinder
Atene SRS 9	Ate_SRS_9	CH76	SRS	Y	C	3	F/S		N	N	
Atene SRS 10	Ate_SRS_10	CH8	SRS	Y?	C–H?	6	D/S	BH, TRs	N	N	
Atene SRS 11	Ate_SRS_11	LE13	SRS	Y	C, LR	9	F/D/S		N	N	
Atene SRS 12	Ate_SRS_12	LE16	SRS	Y	C, H	17	F/D/S	BH	N	N	
Atene SRS 13	Ate_SRS_13	PH29	SRS	Y	C	9	F/S	BH	N	N	
Atene SRS 14	Ate_SRS_14	PH30	SRS	Y	C, LR	10	F/D/S	BH, TRs	N	N	
Atene SRS 15	Ate_SRS_15	PH46	SRS	Y	C, LR	10	F/D/S	BH	N	N	
Atene SRS 16	Ate_SRS_16	PH56	SRS	Y	C, LR	5	F/D/S		N	N	
Atene SRS 17	Ate_SRS_17	PH74	SRS	Y	C	1	F		N	N	
Atene SRS 18	Ate_SRS_18	TH16	SRS	Y	C, H	36	F/D/S	BH	N	N	
Atene SRS 19	Ate_SRS_19	TH18	SRS	Y	C	3	F/D/S	TRs	N	N	
Atene SRS 20	Ate_SRS_20	TH21	SRS	Y	LA?	1	D		N	N	
Atene SRS 21	Ate_SRS_21	TH35	SRS	Y	C, LR	8	F/D/S	BH, TRs	N	N	
Atene SRS 22	Ate_SRS_22	TH48	SRS	Y	C	13	D/S	BH, TRs	N	N	
Atene SRS 23	Ate_SRS_23	PH76	SRS	Y	C	2	D/S	TRs?	N	N	

App. Table 3: Sample of Atene installations

Farmstead name	*Site alias*	*Survey site name*	*Site type*	*Structure visible*	*Date*	*Sherd count*	*Ceramic types*	*Add. info.*	*Agri. tools*	*Agri. insta.*	*Type*
Atene Installation 1	Ate_Insta_1	AN3	Installation	Y	C, LR	7	D/S		Y	Y	Press, grinder
Atene Installation 2	Ate_Insta_2	CH31	Installation	Y	C	5	F/D/S		N	Y	Press
Atene Installation 3	Ate_Insta_3	LE15	Tower	Y	C	17	F/D/S	BH	Y	Y	Threshing floor
Atene Installation 4	Ate_Insta_4	LE17	Tower	Y	C	7	F/D/S	BH, TR	Y	Y	2 threshing floors
Atene Installation 5	Ate_Insta_5	LE18	Installation	Y	C	4	D/S	BH	Y	Y	Threshing floor
Atene Installation 6	Ate_Insta_6	PH2	Tower	Y	C, LR	13	F/D/S	BH, TR	Y	Y	Threshing floor, grinder
Atene Installation 7	Ate_Insta_7	TH1	Tower	Y	C	14	F/D/S	BH, TR	Y	Y	Threshing floor

Eurotas valley, Laconia (Fig. App. 1.3): (data compiled from Shipley 1996, 263–439)

App. Table 4: Eurotas valley, single farmsteads

Farmstead name	*Site alias*	*Survey site name*	*Site type*	*Structure visible*	*Date*	*Roof tile*	*Sherd count*	*Ceramic types*	*Add. info.*	*Agri. tools*	*Agri. insta.*	*Type*
Laconia SRS 1	Lac_SRS_1	B123	Single farmstead	Y	E–MH	Y	40	F/D		N	N	
Laconia SRS 2	Lac_SRS_2	C114	Single farmstead	N	LAR–H	Y	13	F/D		N	N	
Laconia SRS 3	Lac_SRS_3	C169	Single farmstead	N	LAR–LC	Y	19	F/D/S		N	N	
Laconia SRS 4	Lac_SRS_4	E305	Single farmstead	N	C–H	Y	10	F/D/S		N	N	
Laconia SRS 5	Lac_SRS_5	E76	Single farmstead	N	EH	Y	26	F/D/S		N	N	
Laconia SRS 6	Lac_SRS_6	F133	Single farmstead	Y?	EH	Y	15	F/D/S		N	N	
Laconia SRS 7	Lac_SRS_7	F145	Single farmstead	N	EH	Y	10	F/D/S		N	N	
Laconia SRS 8	Lac_SRS_8	F147	Single farmstead	N	C–H	Y	5	F		N	N	
Laconia SRS 9	Lac_SRS_9	G157	Single farmstead	N	LAR–EH	Y	8	F/D		N	N	
Laconia SRS 10	Lac_SRS_10	G159	Single farmstead	N	C–H	Y	6	F/D/S		N	N	
Laconia SRS 11	Lac_SRS_11	H32	Single farmstead	Y	EH	Y	12	D/S		N	N	
Laconia SRS 12	Lac_SRS_12	H60	Single farmstead	Y?	C–H	Y	2	F		N	N	
Laconia SRS 13	Lac_SRS_13	J212	Single farmstead	N	C–H	Y	5	F		N	N	
Laconia SRS 14	Lac_SRS_14	J219	Single farmstead	N	LAR–EH	Y	4	F/D		N	Y	Press?
Laconia SRS 15	Lac_SRS_15	J220	Single farmstead	N	LAR–C	Y	8	F/S		N	N	
Laconia SRS 16	Lac_SRS_16	J229	Single farmstead	Y?	EH	Y	50	D/S		N	N	
Laconia SRS 17	Lac_SRS_17	J231	Single farmstead	N	C	Y	5	F/D	LRSP (LP5)	N	N	
Laconia SRS 18	Lac_SRS_18	K153	Single farmstead	N	EH	Y	22	D/S		N	N	
Laconia SRS 19	Lac_SRS_19	K233	Single farmstead	Y?	H–R	Y	58	D/S		N	N	
Laconia SRS 20	Lac_SRS_20	K234	Single farmstead	Y	EH	Y	16	D/S		N	N	
Laconia SRS 21	Lac_SRS_21	K235	Single farmstead	N	LAR–C	Y	5	F/D	LW	N	N	
Laconia SRS 22	Lac_SRS_22	M172	Single farmstead	N	C–H	Y	5	F		N	N	

(Continued)

App. Table 4: Eurotas valley, single farmsteads. (Continued)

Farmstead name	*Site alias*	*Survey site name*	*Site type*	*Structure visible*	*Date*	*Roof tile*	*Sherd count*	*Ceramic types*	*Add. info.*	*Agri. tools*	*Agri. insta.*	*Type*
Laconia SRS 23	Lac_SRS_23	M175	Single farmstead	Y?	H	Y	98	F/D/S		Y	N	Grinder
Laconia SRS 24	Lac_SRS_24	M325	Single farmstead	N	LAR–LC	Y	92	F/D	LRSP (LP11)	N	N	
Laconia SRS 25	Lac_SRS_25	M327	Single farmstead	Y?	E–MH	Y	46	F/D/S		N	N	
Laconia SRS 26	Lac_SRS_26	M353	Single farmstead	Y?	H	Y	26	F/S		N	N	
Laconia SRS 27	Lac_SRS_27	N186	Single farmstead	N	E–MH	Y	357	F/D/S	LRSP (LP3), LW	N	N	
Laconia SRS 28	Lac_SRS_28	Q359	Single farmstead	Y?	H–R	Y	32	F/D/S		N	Y	Press – possibly ancient
Laconia SRS 29	Lac_SRS_29	R282	Single farmstead	N	C	Y	14	F/D/S		N	N	
Laconia SRS 30	Lac_SRS_30	S431/2	Single farmstead	N	LAR–C	Y	38	F/D		N	N	
Laconia SRS 31	Lac_SRS_31	S437	Single farmstead	N	LAR–LC	Y	279	F/D/S	LRSP (LP14) 2 LW	N		
Laconia SRS 32	Lac_SRS_32	S523	Single farmstead	N	LAR–C	Y	6	F/D		N	N	
Laconia SRS 33	Lac_SRS_33	T465	Single farmstead	N	LC–H	Y	4	F/S		N	N	
Laconia SRS 34	Lac_SRS_34	T470	Single farmstead	Y	E–MH	Y	96	F/D/S		N	N	
Laconia SRS 35	Lac_SRS_35	U496	Single farmstead	N	C	Y	57	F/D/S	LRSP (LP17)	N	N	
Laconia SRS 36	Lac_SRS_36	U500	Single farmstead	Y	C	Y	21	F/D		N	N	
Laconia SRS 37	Lac_SRS_37	U506	Single farmstead	N	C	Y	30	F/D/S		Y	N	Grinder
Laconia SRS 38	Lac_SRS_38	U520	Single farmstead	Y	C–H	Y	6	F/D/S	LW	Y	N	Mortar, 3 grinders

Southern Argolid Survey, the Akte peninsula (Figs App. 1.4–1.5):
(data compiled from Jameson 1994 *et al.* 415–538)

App. Table 5: Akte peninsula, towers

Farmstead name	*Site alias*	*Survey site name*	*Structure type*	*Structure visible*	*Date*	*Roof tile*	*Sherd count*	*Ceramic types*	*Agri. tools*	*Agri. insta.*	*Type*
Akte Tower 1	Akt_Tow_1	A51	Tower	Y	C–H, H, LR	37	37	F/D/S	N	N	
Akte Tower 2	Akt_Tow_2	A53	Tower?	Y	(C–H) H	7	35	D/S	N	N	
Akte Tower 3	Akt_Tow_3	B50	Tower	Y	C–H, LR	7	15	D/S	N	N	
Akte Tower 4	Akt_Tow_4	E52	Tower?	Y	(C–H)	11	13	D/S	N	Y	Press – 2 weight blocks
Akte Tower 5	Akt_Tow_5	F3	Tower	Y	H	0	66	F/D/ S	N	N	

App. Table 6: Akte peninsula, simple rural sites

Farmstead name	Site alias	Survey site name	Site type	Structure visible	Date	Roof tile	Sherd count	Ceramic types	Add. info.	Agri. tools	Agri. insta.	Type
Akte SRS 1	Akt_SRS_1	A28	SRS	N	C–H	48	44	F/D/S		N	N	
Akte SRS 2	Akt_SRS_2	A3	SRS	Y?	C–H?	0	3	F/D/S		N	N	
Akte SRS 3	Akt_SRS_3	A34	SRS	Y?	C–H	31	35	F/D/S		N	N	
Akte SRS 4	Akt_SRS_4	A38	SRS	N	C–H	40	42	F/D/S		N	N	
Akte SRS 5	Akt_SRS_5	A39	SRS	Y?	C–H	50	99	F/D/S		N	N	
Akte SRS 6	Akt_SRS_6	A40	SRS	Y?	C–H (Mod)	85	91	F/D/S		Y	N	Grinder
Akte SRS 7	Akt_SRS_7	A46	SRS	Y?	C–H	12	10	F/D/S		N	N	
Akte SRS 8	Akt_SRS_8	A47	SRS	Y?	C–H	116	70	F/D/S		N	N	
Akte SRS 9	Akt_SRS_9	A48	SRS	Y?	C–H	75	34	D/S		N	N	
Akte SRS 10	Akt_SRS_10	A50	SRS	N	C (C–H)	27	24	F/D/S		N	N	
Akte SRS 11	Akt_SRS_11	A52	SRS	Y	C, C–H	93	103	F/D/S		N	N	
Akte SRS 12	Akt_SRS_12	A54	SRS	N	(C–H) H	27	35	F/D/S		N	N	
Akte SRS 13	Akt_SRS_13	A62	SRS	N	C, C–H	5	22	F/D/S		Y	N	
Akte SRS 14	Akt_SRS_14	A64	SRS	N	C–H?	2	12	F/D/S	lamp	N	N	
Akte SRS 15	Akt_SRS_15	A66	SRS	Y?	C–H, LR, Mod.	0	0	F/D/S		N	N	
Akte SRS 16	Akt_SRS_16	B2	SRS	Y	A, C	18	0	F/D/S	spool/LW/clap	N	N	
Akte SRS 17	Akt_SRS_17	B23	SRS	Y	C, C–H	4	85	F/D/S	3 LW/spindle whorl/ Lamp/BH/kiln tripods	Y	N	Grinder
Akte SRS 18	Akt_SRS_18	B25	SRS	N	(A), C	7	150	F/D/S		Y	N	Grinder
Akte SRS 19	Akt_SRS_19	B33	SRS	Y	C–H	8	12	F/D/S	LW	Y	N	Grinders
Akte SRS 20	Akt_SRS_20	B34	SRS	N	C–H?	6	9	F/S		N	N	
Akte SRS 21	Akt_SRS_21	B36	SRS	Y	C–H	5	25	F/D/S		Y	N	Grinders
Akte SRS 22	Akt_SRS_22	B52	SRS	N	C	40	16	F/D/S		N	N	
Akte SRS 23	Akt_SRS_23	B54	SRS	N	C–H	22	28	F/D/S		N	N	
Akte SRS 24	Akt_SRS_24	B55	SRS	N	C–H	3	13	F/D/S		Y	N	Grinder

Akte SRS 25	Akt_SRS_25	B57	SRS	Y?	C–H	90	21	F/D/S		Y	N	Grinder
Akte SRS 26	Akt_SRS_26	B58	SRS	Y?	(C–H), (LR)	22	12	D		N	N	
Akte SRS 27	Akt_SRS_27	B59	SRS	Y?	C–H	151	65	F/D/S		N	N	
Akte SRS 28	Akt_SRS_28	B60	SRS	N	C–H	20	9	F/S		N	N	
Akte SRS 29	Akt_SRS_29	B61	SRS	N	(C–H)	19	12	F/D/S		N	N	
Akte SRS 30	Akt_SRS_30	B62	SRS	N	C	31	28	F/D/S		Y	N	Grinder
Akte SRS 31	Akt_SRS_31	B63	SRS	N	C–H	22	26	F/D		N	N	
Akte SRS 32	Akt_SRS_32	B65	SRS	Y?	C–H	45	32	S/D		N	N	
Akte SRS 33	Akt_SRS_33	B67	SRS	N	A, (C), (C–H), (LR)	8	79	F/D		N	N	
Akte SRS 34	Akt_SRS_34	B68	SRS	N	C–H, (H)	144	55	F/D/S		N	N	
Akte SRS 35	Akt_SRS_35	B69	SRS	N	C–H	144	36	F/D/S		N	N	
Akte SRS 36	Akt_SRS_36	B70	SRS	N	C–H	5	37	F/D/S		N	N	
Akte SRS 37	Akt_SRS_37	B71	SRS	N	C–H	14	14	S/D		N	N	
Akte SRS 38	Akt_SRS_38	B74	SRS	N	C–H	12	11	F/S		N	N	
Akte SRS 39	Akt_SRS_39	B75	SRS	N	C–H, Mod	83	29	F/D/S		N	N	
Akte SRS 40	Akt_SRS_40	B76	SRS	N	C–H	46	36	F/D/S		N	N	
Akte SRS 41	Akt_SRS_41	B80	SRS	N	C–H	14	13	S		Y	N	Grinder
Akte SRS 42	Akt_SRS_42	B83	SRS	Y	C–H	47	60	F/D/S		Y	N	Grinder
Akte SRS 43	Akt_SRS_43	B86	SRS	Y	C–H	19	36	F/D/S		N	N	
Akte SRS 44	Akt_SRS_44	B88	SRS	Y	C–H, LR	56	55	F/D/S		Y	N	
Akte SRS 45	Akt_SRS_45	B9	SRS	Y?	(A), C, (C–H)	7	136	F/D/S		Y?	N	Grinder
Akte SRS 46	Akt_SRS_46	B92	SRS	Y	C–H	36	31	F/D/S		N	N	
Akte SRS 47	Akt_SRS_47	B93	SRS	N	C–H, Mod	62	27	F/S		N	N	
Akte SRS 48	Akt_SRS_48	B95	SRS	N	C, C–H	14	22	F/D		Y	N	Grinder
Akte SRS 49	Akt_SRS_49	B98	SRS	Y?	C–H	12	5	S		N	N	
Akte SRS 50	Akt_SRS_50	C16	SRS	N	C–H	4	11	D/S	spindle/LW	N	N	
Akte SRS 51	Akt_SRS_51	C34	SRS	Y?	C–H	36	11	D/S		Y	N	Grinder

(*Continued*)

App. Table 6: Akte peninsula, simple rural sites (Continued)

Farmstead name	Site alias	Survey site name	Site type	Structure visible	Date	Roof tile	Sherd count	Ceramic types	Add. info.	Agri. tools	Agri. insta.	Type
Akte SRS 52	Akt_SRS_52	C36	SRS	Y?	C–H	66	65	F/D/S	wall plaster	N	N	
Akte SRS 53	Akt_SRS_53	C37	SRS	N	C, C–H, H	69	215	F/D/S	2 LW/ spool/ lamp	N	N	
Akte SRS 54	Akt_SRS_54	E27	SRS	Y	C–H?	0	13	F/S		N	N	
Akte SRS 55	Akt_SRS_55	E37	SRS	Y?	C–H, H	7	19	F/D	LW	N	N	
Akte SRS 56	Akt_SRS_56	E39	SRS	N	C–H, Mod	5	10	F/D/S	Lamp	N	N	
Akte SRS 57	Akt_SRS_57	E41	SRS	N	(C–H), LR	54	3	D		N	N	
Akte SRS 58	Akt_SRS_58	E43	SRS	Y	C–H	56	57	F/D/S	Lamp	Y	N	Grinder
Akte SRS 59	Akt_SRS_59	E44	SRS	Y?	H	43	38	F/D/S		N	N	
Akte SRS 60	Akt_SRS_60	E55	SRS	N	(A), (H), LR	19	51	D		N	N	
Akte SRS 61	Akt_SRS_61	E57	SRS	Y	(C), C–H, H, (ER)	116	136	F/D/S		N	N	
Akte SRS 62	Akt_SRS_62	E58	SRS	N	C–H, H, (ER)	67	102	F/D/S		N	N	
Akte SRS 63	Akt_SRS_63	E61	SRS	N	(C–H), H, ER	46	310	F/D/S		N	N	
Akte SRS 64	Akt_SRS_64	E63	SRS	N	(C–H), H, (ER)	71	138	F/D/S		N	N	
Akte SRS 65	Akt_SRS_65	E79	SRS	N	C–H	0	7	F/D/S	‘many roof tile’	N	N	
Akte SRS 66	Akt_SRS_66	F40	SRS	N	(C–H), (Med)	5	8	D		N	N	
Akte SRS 67	Akt_SRS_67	F41	SRS	Y?	C–H	8	30	F/D/S		Y	N	Sickle
Akte SRS 68	Akt_SRS_68	F43	SRS	N	C–H, Med	17	76	F/D/S		N	N	
Akte SRS 69	Akt_SRS_69	F44	SRS	N	C–H, (H), (ER)	54	47	F/D/S		N	N	
Akte SRS 70	Akt_SRS_70	F58	SRS	N	(A), C, (MR)	21	5	F		Y	N	Grinder
Akte SRS 71	Akt_SRS_71	G13	SRS	N	C–H, LR	76	82	F/D		N	N	
Akte SRS 72	Akt_SRS_72	G20	SRS	Y?	C, C–H, (Mod)	106	39	F/D/S		Y	N	Grinder
Akte SRS 73	Akt_SRS_73	G31	SRS	N	C–H, Med	23	171	D/S	LW	N	N	
Akte SRS 74	Akt_SRS_74	G32	SRS	Y?	C–H	15	11	F		N	N	

App. Table 7: Akte peninsula, installations

Farmstead name	Site alias	Survey site name	Site type	Structure visible	Date	Roof tile	Sherd count	Ceramic types	Add. Info.	Agri. tools	Agri. insta.	Type
Akte Installation 1	Akt_Insta_1	A61	Installation	Y	C–H	73	83	F/D/S		N	Y?	Press? – trough & basin
Akte Installation 2	Akt_Insta_2	E52	Tower?	Y	(C–H)	11	13	D/S		N	Y	Press – 2 weight blocks
Akte Installation 3	Akt_Insta_3	A60	Installation	Y	C–H	93	75	F/D/S		N	Y	Press – press bed
Akte Installation 4	Akt_Insta_4	B103	Second Order	Y	C–H, Mod	0	3	F/D/S		Y	Y	Press – weight block, grinders
Akte Installation 5	Akt_Insta_5	B6	Installation	Y?	C, C–H	0	0	no counts for pottery		N	Y	Press – press bed
Akte Installation 6	Akt_Insta_6	B78	Installation	N	C–H	103	89	F/D/S		N	Y	Press – press bed
Akte Installation 7	Akt_Insta_7	B89	Installation	Y	C–H, H	132	170	F/D/S		N	Y?	Press? – trough
Akte Installation 8	Akt_Insta_8	C32	Installation	Y	C–H	91	0	F/D	LW	N	Y?	Press? – basin
Akte Installation 9	Akt_Insta_9	C42	Second Order	Y?	C–H, Mod	22	62	F/D/S		Y	Y	Press? – basins, grinders
Akte Installation 10	Akt_Insta_10	E30	Installation	Y	C–H	4	4	S		N	Y	Press – weight block
Akte Installation 11	Akt_Insta_11	E38	Installation	Y	C–H	8	13	D/S		N	Y	Press – press beds & weight block
Akte Installation 12	Akt_Insta_12	E54	Installation	N	C–H	7	9	F/D/S		N	Y	Press – press beds & weight block
Akte Installation 13	Akt_Insta_13	E7	Second Order	Y	(A), C, C–H, (LR)	0	0	F/D/S		N	Y	Press – trapetum, grinders
Akte Installation 14	Akt_Insta_14	E70	Installation	Y	C–H	71	138	F/D/S		N	Y	Press – 2 weight blocks
Akte Installation 15	Akt_Insta_15	E78	Second Order	Y?	C–H, (H), (ER)	0	20	F/D/S		Y	Y	Press? – basin, grinders
Akte Installation 16	Akt_Insta_16	F4	Second Order	Y	A, C, C–H, (H), (ER)	0	0	F/D/S		Y	Y	Press? – basin, grinders
Akte Installation 17	Akt_Insta_17	G1	Second Order	Y?	A, C, Med	4	174	F/D/S		N	Y	Press – weight block
Akte Installation 18	Akt_Insta_18	G11	Second Order	Y	A, (C)	2	31	F/D/S		N	Y	Press? – basin
Akte Installation 19	Akt_Insta_19	G14	Installation	N	(H)	9	19	D		N	Y	Press – press beds & weight block
Akte Installation 20	Akt_Insta_20	G21	Installation	N	C–H	41	30	F/D/S		N	Y?	Press? – basin

App. Table 8: Akte peninsula, second order sites

Akte Second Order sites	*Site alias*	*Survey site name*	*Settlement type*	*Date*	*Additional comments*
Akte Second Order 1	Akt_Sec_1	A12	Village	C, LR	
Akte Second Order 2	Akt_Sec_2	A20	Habitation	C, LR, Mod	Village? with well
Akte Second Order 3	Akt_Sec_3	A49	Habitation	C, C–H, LR	Village?
Akte Second Order 4	Akt_Sec_4	B4	Village?	(C–H), LR, (Mod)	Visible structures and grinders
Akte Second Order 5	Akt_Sec_5	B5	Village	(C–H), Med	Visible structures and grinders
Akte Second Order 6	Akt_Sec_6	B16	Fortified habitation	A, C	Plan of walls (Jameson *et al.* 1994, 442)
Akte Second Order 7	Akt_Sec_7	B20	Habitation	C, (H), (ER), LR	Village?
Akte Second Order 8	Akt_Sec_8	B100	Habitation	C–H, (H), (ER)	Visible structures and grinders
Akte Second Order 9	Akt_Sec_9	B103	Habitation	C–H, Mod	Visible structures, grinders, and press
Akte Second Order 10	Akt_Sec_10	C17	Habitation	A, C, LR	Temple?, many roof tile & pottery
Akte Second Order 11	Akt_Sec_11	C42	Habitation	C–H, Mod	Grinder and large basins
Akte Second Order 12	Akt_Sec_12	E3	Village	(A), C, Med	Fortified
Akte Second Order 13	Akt_Sec_13	E6	Town?	C–H, (H), (ER)	Visible structures, shrine, well, circuit wall
Akte Second Order 14	Akt_Sec_14	E7	Habitation	(A), C, C–H, (LR)	Visible structures, grinders, and press
Akte Second Order 15	Akt_Sec_15	E16	Habitation	C–H	with grave
Akte Second Order 16	Akt_Sec_16	E36	Village	A, C, (H)	
Akte Second Order 17	Akt_Sec_17	E76	Habitation	H, ER	Tower, Threshing Floor, large settlement
Akte Second Order 18	Akt_Sec_18	E78	Village	C–H, H, (ER)	Press?, grinders
Akte Second Order 19	Akt_Sec_19	F1	Village	C, C–H, (H), (ER)	Visible structures
Akte Second Order 20	Akt_Sec_20	F4	Village	A, C, C–H, (H), (ER)	Visible structures, grinders, and press?
Akte Second Order 21	Akt_Sec_21	F5	Village	A, C, (C–H), Med	
Akte Second Order 22	Akt_Sec_22	F12	Habitation	(C–H)	Rubble circuit wall, may relate to site F4
Akte Second Order 23	Akt_Sec_23	F19	Habitation	C, (MR)	
Akte Second Order 24	Akt_Sec_24	F27	Well	(A), C	Large quantities of ceramics in fill

Akte Second Order 25	Akt_Sec_25	F57	Habitation	C–H, LR	Village?
Akte Second Order 26	Akt_Sec_26	F60	Town	C	Ancient Fournoi/Philanoreia with temple
Akte Second Order 27	Akt_Sec_27	G1	Village	A, C, Med	Shrine? And press
Akte Second Order 28	Akt_Sec_28	G2	Town	C, C–H, (H)	Ancient Eileoi? visible circuit wall and structures, with well, shrine, grinders (plan in Jameson *et al.* 1994, 520)
Akte Second Order 29	Akt_Sec_29	G10	Habitation?	C	Fortified watchpost? Visible structures (plan in Jameson *et al.* 1994, 523)
Akte Second Order 30	Akt_Sec_30	G11	Habitation	A, C	Village possible press?

App. Table 9: Akte peninsula, cult sites

Akte Cult sites	*Site alias*	*Survey site name*	*Site date*	*Type*
Akte Cult Site 1	Akt_Cul_1	A15	A, C, LR	Sanctuary of Demeter
Akte Cult Site 2	Akt_Cul_2	A24	C, H, MR	Shrine
Akte Cult Site 3	Akt_Cul_3	A4		Sanctuary of Apollo
Akte Cult Site 4	Akt_Cul_4	A5	A, C	Sanctuary of Zeus
Akte Cult Site 5	Akt_Cul_5	B10	A, C	Shrine
Akte Cult Site 6	Akt_Cul_6	B56	(A), C, LR	Shrine
Akte Cult Site 7	Akt_Cul_7	C12	A, C, LR	Shrine
Akte Cult Site 8	Akt_Cul_8	C17	A, C, LR	Temple in town
Akte Cult Site 9	Akt_Cul_9	D12	C–H, Med	Shrine to Demeter
Akte Cult Site 10	Akt_Cul_10	E32	C, (C–H)	Shrine
Akte Cult Site 11	Akt_Cul_11	E33	A, C	Shrine of Zeus
Akte Cult Site 12	Akt_Cul_12	E6	C–H, (H)	Sanctuary in town
Akte Cult Site 13	Akt_Cul_13	F60	C	Temple in Ancient Fournoi/Philanoreia
Akte Cult Site 14	Akt_Cul_14	G1	A, C, Med	Shrine in village
Akte Cult Site 15	Akt_Cul_15	G2	C– C–H, (H)	Shrine in town (ancient Eileoi?)

Methana survey, Methana peninsula (Fig. App. 1.6): (data compiled from Mee *et al.* 1997, 118–211)

App. Table 10: Methana peninsula, towers

Farmstead name	*Site alias*	*Survey site name*	*Structure type*	*Structure visible*	*Site date*	*Roof tile (%)**	*Sherd count*	*Ceramic types*	*Add. Info.*	*Agri. tools*	*Agri. insta.*	*Type*
Methana Tower 1	Meth_Tow_1	MS16	Tower?	Y	C–H	40	11	F/D		N	N	
Methana Tower 2	Meth_Tow_2	MS67	Tower?	Y	A–H, LR–MED	14	252	F/D/S	Lamps	Y	Y	Press – *trapetum*, grinder
Methana Tower 3	Meth_Tow_3	MS125	Tower?	Y	C?	0	0			N	N	
Methana Tower 4	Meth_Tow_4	MS211	Tower?	Y	C, R	55	16	F/D/S		N	Y	Press – press bed
Methana Tower 5	Meth_Tow_5	MS66	Tower	Y	C?	0	0			N	Y	Press – press bed
Methana Tower 6	Meth_Tow_6	MS50	Tower	Y	C–H	0	1	F		N	N	

*The proportion of sherd: tile was expressed as a percentage in the survey report (Mee *et al.* 1997, 118).

App. Table 11: Methana peninsula, simple rural sites

Farmstead name	Site alias	Survey site name	Site type	Structure visible	Date	Roof tile (%)	Sherd count	Ceramic type	Add. info.	Agri. tools	Agri. insta.	Type
Methana SRS 1	Meth_SRS_1	MS2	SRS	Y	C–H, R	32	11	F/D/S	LW	N	N	
Methana SRS 2	Meth_SRS_2	MS3	SRS	N	C, R–LR	38	17	D/S	LW	N	N	
Methana SRS 3	Meth_SRS_3	MS4	SRS	N	C?	42	6	D/F		N	N	
Methana SRS 4	Meth_SRS_4	MS6	SRS	N	C–H	19	19	D/S		N	N	
Methana SRS 5	Meth_SRS_5	MS5	SRS	Y	C–H	45	19	D		N	N	
Methana SRS 6	Meth_SRS_6	MS7	SRS	N	C–H, R–LR	26	26	F/D		N	N	
Methana SRS 7	Meth_SRS_7	MS8/9	SRS	N	C–HE, R–LR	29	58	F/D/S		N	N	
Methana SRS 8	Meth_SRS_8	MS212	SRS	N	C–H	66	26	F/D		N	N	
Methana SRS 9	Meth_SRS_9	MS213	SRS	N	C–H	59	34	F/D		N	N	
Methana SRS 10	Meth_SRS_10	MS220	SRS	Y?	C	42	38	F/D/S	iron blade	N	N	
Methana SRS 11	Meth_SRS_11	MS207	SRS	N	C, M	8	10	F/D		Y	N	Grinders
Methana SRS 12	Meth_SRS_12	MS214	SRS	N	C–HE	53	26	F/D/S		Y	N	Cistern – possibly for storing grain
Methana SRS 13	Meth_SRS_13	MS110	SRS	N	C–H	11	20	F/D/S	BH	Y	N	
Methana SRS 14	Meth_SRS_14	MS52	SRS	Y	C–H, Med	27	14	D		N	N	
Methana SRS 15	Meth_SRS_15	MS15	SRS	N	C, LR	28	6	F/D/S	LW	N	N	
Methana SRS 16	Meth_SRS_16	MS18	SRS	N	C–H, H	33	6	F/D		N	N	
Methana SRS 17	Meth_SRS_17	MS25	SRS	Y?	H, LR	45	11	F/D/S		N	N	
Methana SRS 18	Meth_SRS_18	MS72	SRS	N	C–H	82	5	F/D/S		N	N	
Methana SRS 19	Meth_SRS_19	MS74	SRS	N	C–H	71	1	D		N	N	
Methana SRS 20	Meth_SRS_20	MS215	SRS	Y?	C–H	25	8	F/D/S		N	N	

App. Table 12: Methana peninsula, installations

Farmstead name	*Site alias*	*Survey site name*	*Structure type*	*Structure visible*	*Date*	*Roof tile*	*Sherd count*	*Ceramic type*	*Agri. tools*	*Agri. insta.*	*Type*
Methana Installation 1	Meth_Insta_1	MS67	Oga	Y	A–H, LR–MED	14	252	F/D/S	Y	Y	Press – grinder, trapetum
Methana Installation 2	Meth_Insta_2	MS211	Tower?	Y	C, R	55	16	F/D/S	N	Y	Press – press bed
Methana Installation 3	Meth_Insta_3	MS70/1	Installation	Y?	H	19	13	F/D/S	N	Y	Press
Methana Installation 4	Meth_Insta_4	MS100	Installation	Y	C–H	44	7	F/D	N	Y	Press – orbis from trapetum
Methana Installation 5	Meth_Insta_5	MS106	Installation	N?	C–H	36	31	F/D/S	N	Y	Press – complete press installation
Methana Installation 6	Meth_Insta_6	MS120	Installation	Y	C–LR, EC–MED	42	49	F/D	N	Y	Press – press beam block
Methana Installation 7	Meth_Insta_7	MS121	Installation	N	C–H	19	11	D/S	Y	Y	Press – press beam block, grinder
Methana Installation 8	Meth_Insta_8	MS123	Installation	N	C–H, LR, EMod	6	28	F/D/S	N	Y	Press – 6 Press beds, 2 press beam blocks, 8 patitira
Methana Installation 9	Meth_Insta_9	MS66	Tower	Y	C	0	0		N	Y	Press – press bed
Methana Installation 10	Meth_Insta_10	MS69	Installation	Y	H, R	81	4	D/S	N	Y	Press – weight block
Methana Installation 11	Meth_Insta_11	MS209	Installation	Y	C–H, R	35	11	F/D/S	N	Y	Press – press bed, column, boulder, beam block

App. Table 13: Methana peninsula, second order sites

Methana Second Order sites	*Site alias*	*Survey site name*	*Settlement type*	*Date*	*Additional comments*
Methana Second Order 1	Meth_Sec_1	MS12	Habitation	A, C, H	Hamlet?
Methana Second Order 2	Meth_Sec_2	MS13	Habitation	C, H, LR	Hamlet?
Methana Second Order 3	Meth_Sec_3	MS14	Habitation	C, H, R	Hamlet?
Methana Second Order 4	Meth_Sec_4	MS53	Settlement	C, H	Associated with MS54
Methana Second Order 5	Meth_Sec_5	MS54	Harbour	C, H, Med	
Methana Second Order 6	Meth_Sec_6	MS55	Settlement	C, H	Collapsed cistern
Methana Second Order 7	Meth_Sec_7	MS56	Town	A–MED	Part of ancient Methana?

App. Table 14: Methana peninsula, cult sites

Methana Cult sites	*Site alias*	*Survey site name*	*Date*	*Type*
Methana Cult Site 1	Meth_Cul_1	MS11	A, C	Shrine/cemetery?
Methana Cult Site 2	Meth_Cul_2	MS30	C, H	Temple
Methana Cult Site 3	Meth_Cul_3	MS68	A, C	Sanctuary
Methana Cult Site 4	Meth_Cul_4	MS67	A,C	Sanctuary of Poseidon

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